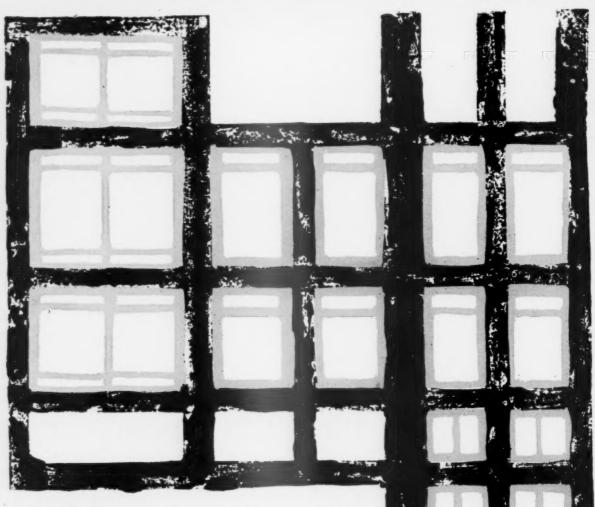
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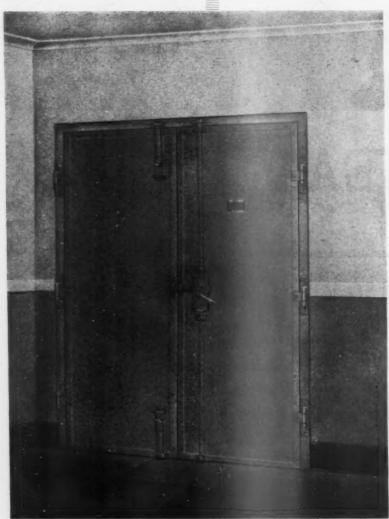
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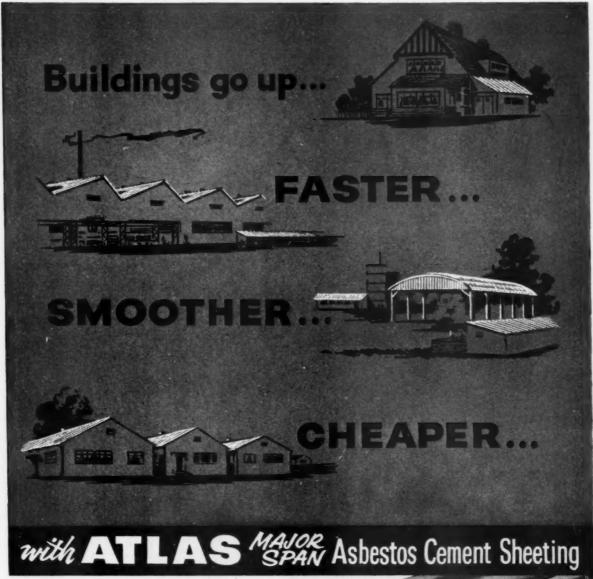
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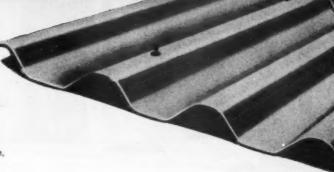
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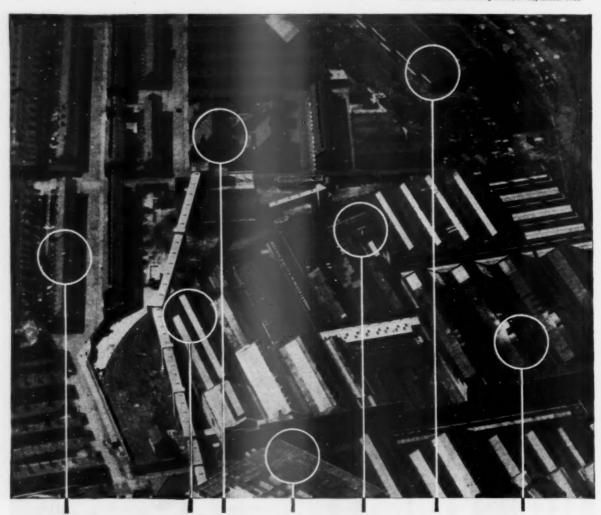
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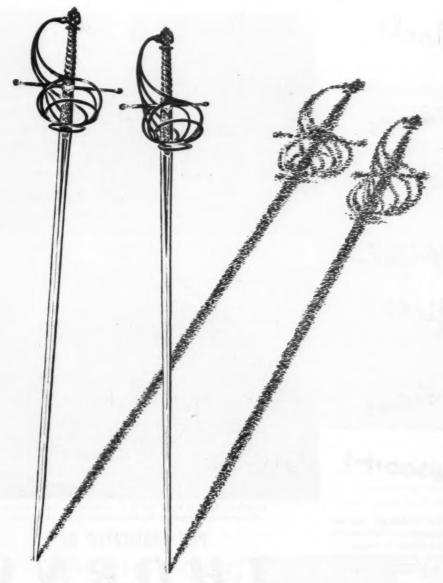


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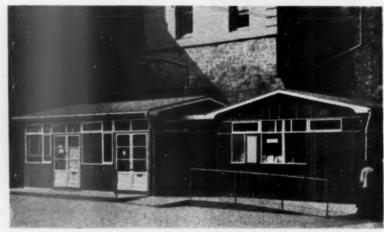
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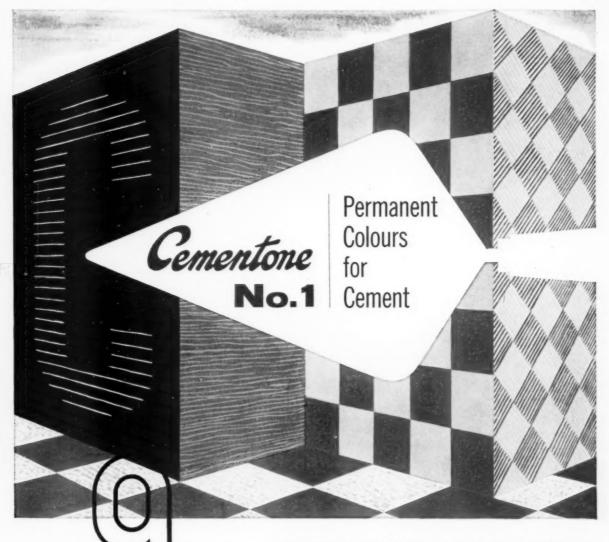
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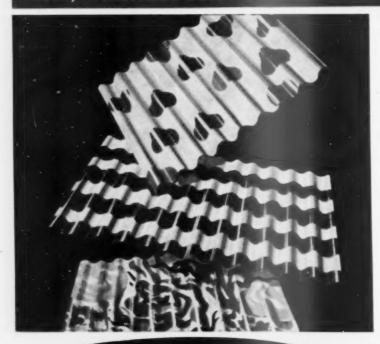
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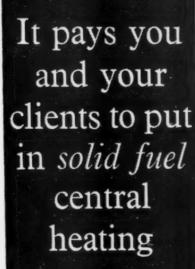
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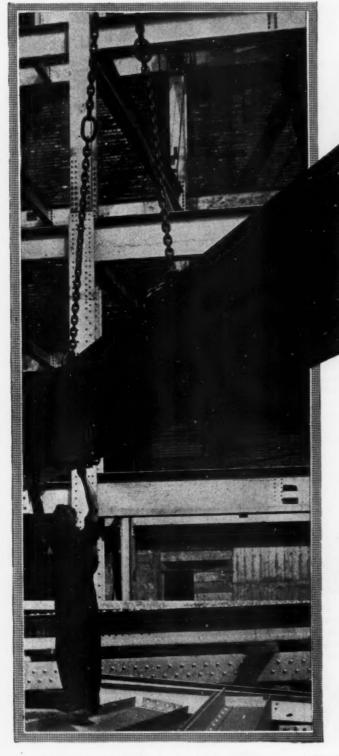
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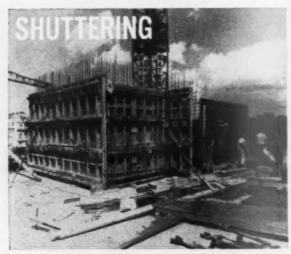
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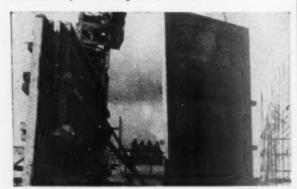
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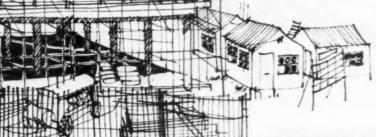
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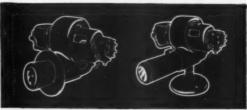
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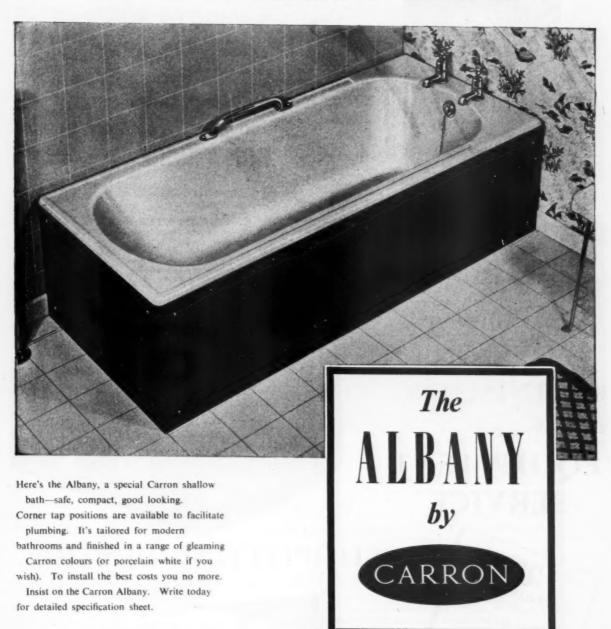
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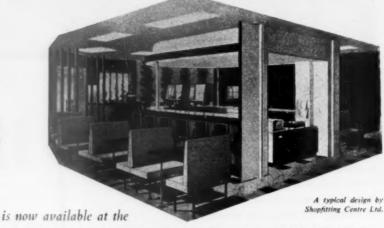
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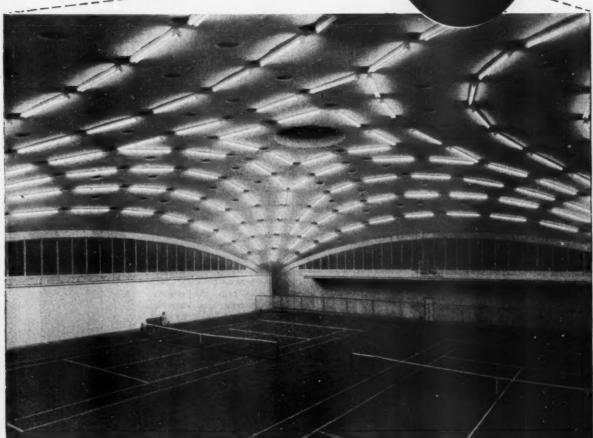
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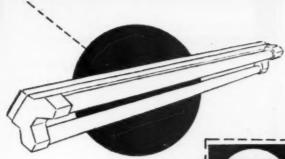
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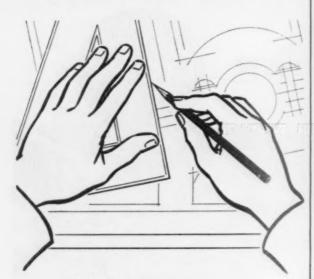


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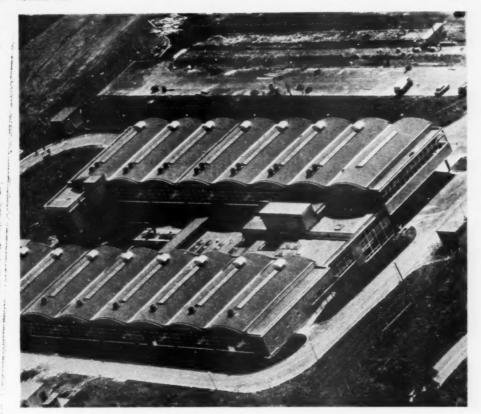
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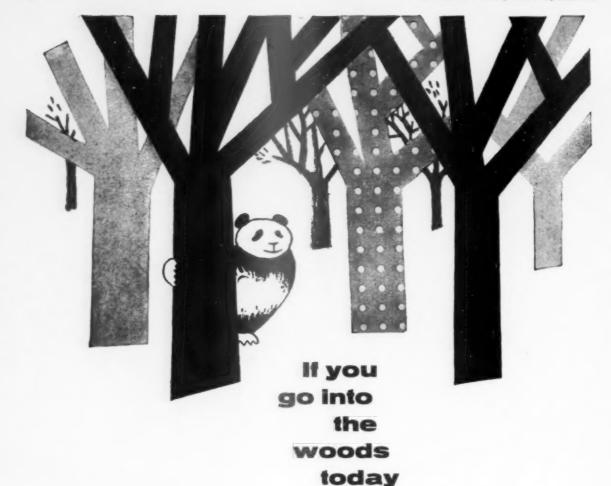
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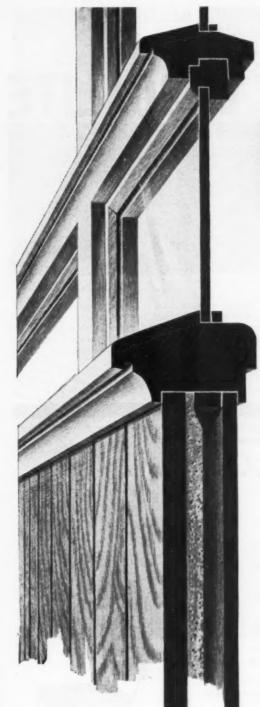
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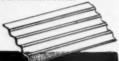


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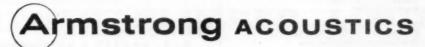


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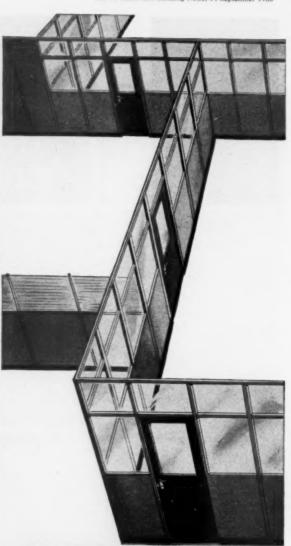
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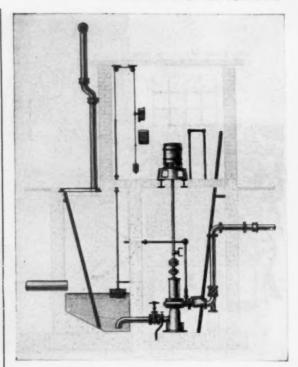
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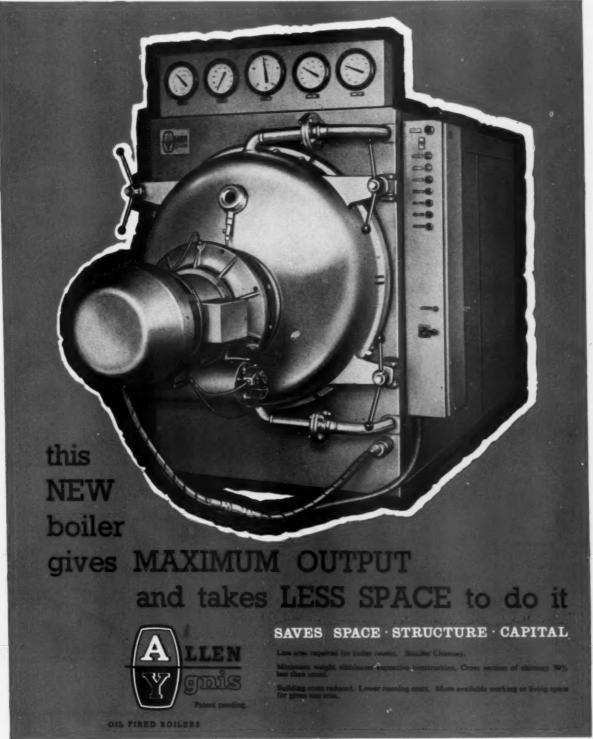


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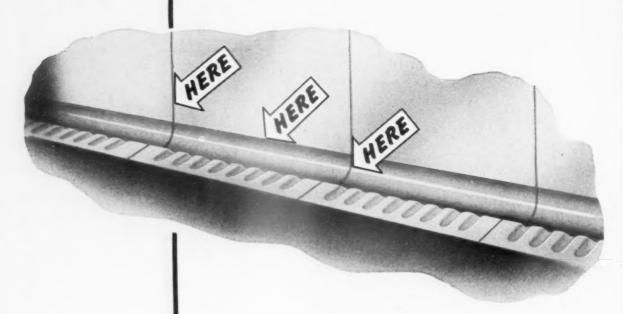
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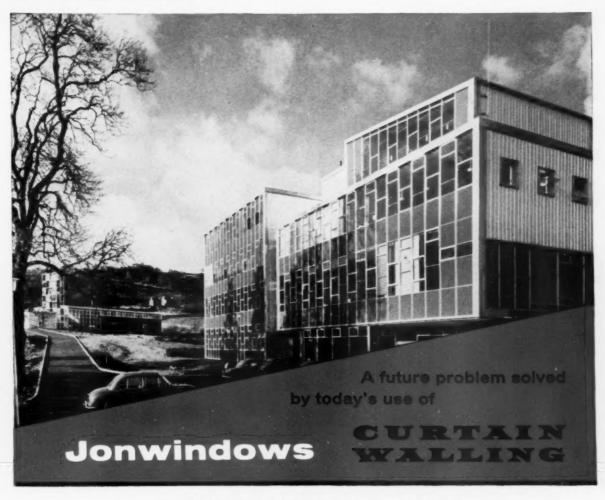
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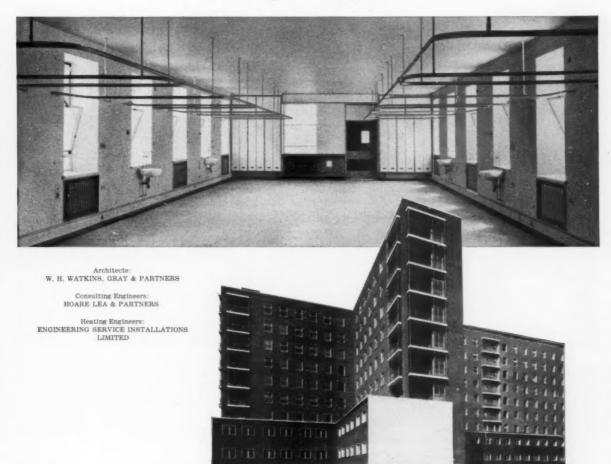
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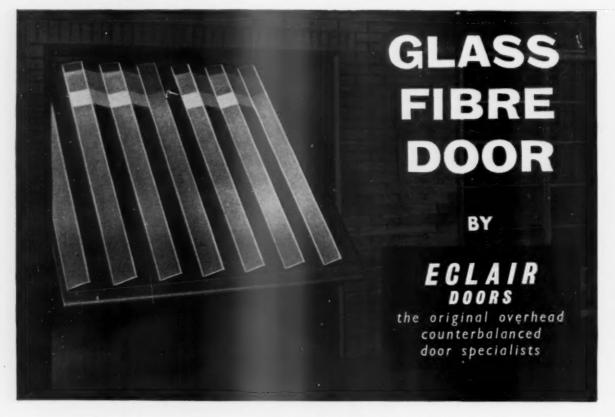
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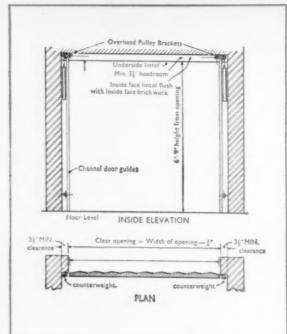
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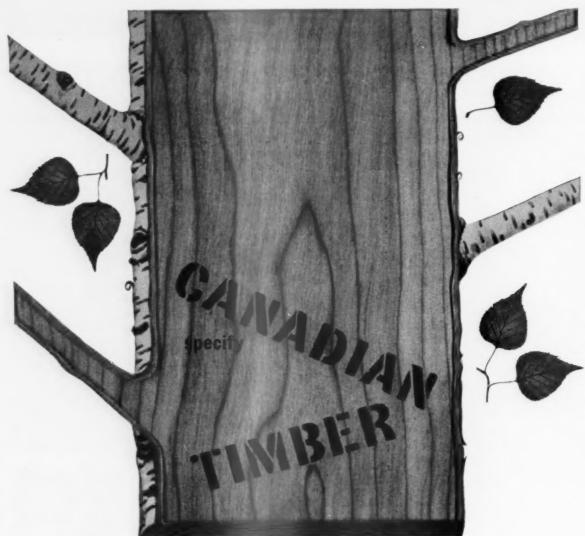
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# floating technicians?

Any discussion on education, architectural or otherwise, must postulate what the students are being educated for. What form of society will they live in? How will it be organized? And for architectural students in particular: how will building be organized? What choice of roles is there likely to be for individuals? What part will the architectural profession play in the building industry of the future, and so on?

Even without detailed examination it may be suspected that for a long time it has been quite unreasonable to train every architectural student as if he were to become a latter-day Christopher Wren, complete and perfect in all things and issuing ex cathedra instructions to willing and subservient tradesmen of all kinds.

The reality is far different. The industry has grown complex beyond the power of any one man to master. The ability to design, although still important, is only one ability among many which an efficient architectural team must have.

If it is accepted that architecture has become teamwork, not only within the architectural office itself but teamwork with the allied professions and the contractors, sub-contractors and suppliers, it must be doubted whether present methods of education are still valid.

Would it not be wiser to accept that certain branches of knowledge are needed by all engaged on the organization of building operations and that additional aptitudes and knowledge are needed by those who are to become full architects, architectural assistants, building technicians, quantity surveyors, structural engineers and builders?

This is the basis of the argument for joint Colleges of Building and it is offered as an introduction for a proposal which is not so familiar—that of the floating technician. The RIBA\* is investigating the organization and training of technicians and the suggestion we make is that these building technicians should be encouraged to alternate between architects' and builders' offices. If their experience in both spheres were varied enough, they would, after some years, become invaluable both in the architect's office as the adviser on the practical aspects and possibilities of production methods and site organization and in the builder's office on the aims and outlook of architects—still often clouded in faintly disrespectful mystery.

Something of this kind happens already in a small way. The suggestion is that it should be officially blessed and be encouraged both by the RIBA and by the Institute of Builders. A valuable new element would thus be introduced which could do much to integrate the building industry.

On the Cover: The new headquarters for Nestlé at Vevey, Switzerland

### Architectural problems of show cities

Gliding gently along the canals of Amsterdam in a giant motor boat, the windows steamed up because of the teeming rain outside, I was very conscious of the problems which face the city authorities and architects alike when it comes to rebuilding in a strongly traditional area. A member of the Amsterdam committee responsible for such decisions was with me. He is an architect in private practice and has a feeling for modern architecture. As we passed between the rows of fantastically gabled houses and under the low bridges we could see where, during the last two hundred years, people had tried, and usually failed, to come to terms with the original architecture when rebuilding. The worst mistakes were where the scale had been altered, either by departing from the general pattern of storey heights, or where a number of old houses had been replaced by a single building. Attempts to put back the old type of building were usually not successful because the designs were not scholarly enough, were too complicated or were just badly done. Here and there I saw modern solutions which did not offend. My friend was almost prepared to say that rebuilding should be in the traditional style. This went against his normal principles but he felt that the risks of doing otherwise were too great. We agreed that this type of problem was the most difficult which an architect had to face and that it needed the exercise of immense skill and a humble approach if a satisfactory solution were to be found.

Amsterdam is the capital of Holland and the old town represents only a very small part of the whole city which is expanding rapidly. The old town is, therefore, not just a tourist centre but also the centre for offices and shops. The canals, however, are only used by tourist boats and some hundreds of moored houseboats which the town planning authorities would dearly like to move.

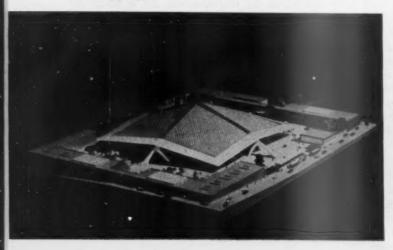
In contrast with this Dutch example the town of Bruges in Belgium, once one of the richest trading cities in Europe, is now only kept alive by tourists. It has an inland harbour of some importance but very little industry. The motor car has changed its main streets but its narrow alleys and back streets are much as they were forty years ago. There are now few horses about and no working dogs. It is clearly the policy of the authorities that Bruges should maintain its traditional face and the only rebuilding being done within the outer boundary of canals is in the Flemish tradition but with concrete floors and lifts where necessary. In the past this rebuilding has not always been very successful and the whole of one side of the great market square was ruined in the last century by a monstrous Gothic administrative building. On the whole the modern Flemish style is well done and I think that we may be thankful that the general run of modern Belgian architecture has not been let loose on this very beautiful town. For this reason it seems to me that the decision to rebuild only in the traditional style is fully justified.

I was lucky enough to see the superb Belgian-American exhibition of 15th-century Flemish paintings and other art treasures before it closed. Conditions were not of the best for it was hot and very crowded and all catalogues had been sold. Had we been a little quicker off the mark we might have borrowed miniature tape recorded guides to the exhibition. At first I was puzzled by the number of people wearing what I thought were large-sized deaf aids. The exhibition was very well arranged but I noticed that the pictures from Belgian national collections and from private American collections were in far better condition than those from American galleries and museums. Many American pictures were dirty and needed reframing.

I shall be coming back with more about Holland and Belgium next week.

ABNER

Work has started on the Coliseum Century 21 for an exhibition at Seattle, U.S.A. in 1962. The aluminium roof, by the Reynolds Metal Company, will cover more than three acres and will be formed of four hyperbolic-paraboloids. The entire roof structure will rest mainly on four huge tripods of reinforced concrete and the centre peak will be about 110ft above the floor. Architect, Paul Thiry, FAIA; structural engineer, Peter Hostmark and Associates; general contractor, Howard S. Wright Construction Co. Cost, \$4,000,000



Did Ely inspire Gibberd? (See letters on facing page). A diagram from The National Buildings Record of the lantern tower at Ely Cathedral



### Liverpool Cathedral

Sir,-Your correspondent Keith Scott contributes a brilliant and fair criticism of the winning schemes in this competi-tion. You recently published the plans and details of Frank Lloyd Wright's Guggenheim Museum, and this showed once again how a plan alone can be a thing of beauty. His ground level plan showed a supreme mastery of the handling of communications, punctuation, proportioning of parts, beauty of shapes. Out of it arose inevitably the external drums, so well suited also to the street corner site. Gibberd's cathedral plan fails lamentably in these respects, but one can feel pretty certain that he will have to tidy-up those chapels. As your critic well points out it will not be sufficient to rely upon the materials alone to pull this chaotic elevation together.

The rotunda form is, of course, similar to Wright's in its essentials. How much better does C. H. R. Bailey solve the problem! In his plan large parts of the congregation would not be facing others across the sanctuary itself. This is not to be a circus or a boxing stadium, however strong may be the desire to get the people into the church. Mr. Bailey has surmounted the sanctuary difficulty by pushing it forward so that some detachment, some illusion

of a sacred point, is retained.

Gibberd's rising cone, surmounted by a most extraordinary sort of crown, suggests more a crucible than a cathedral. Apart from the serious cleaning and maintenance objections mentioned by your critic this cathedral will not perhaps harmonize with what your critic calls 'the more exotic of the new university buildings', but it will certainly harmonize with the structures of an industrial area, as I well know, having lived at one time fairly near to the Consett Steelworks. The whole elevation is far inferior to the swept-up-to-Heaven ribs of the Brasilia Cathedral; ribs which curve up and slightly out like hands held to Heaven in supplication and prayer.

Your critic seems to imply that Mr. Bailey has striven for 'ingenuity for its own sake' in his elevational treatment. Whether this is true we do not know, but to this writer the elevation strongly suggests the hoods of praying nuns, gathered round a mother-church or sacred place. No doubt the material of which these curved shapes might have been constructed would have been a problem, but not insoluble. Many will feel greviously disappointed that this magnificent

design will never materialize.

Yours, etc., KENNETH GLOVER.

Sir,-The detractors of Frederick Gibberd's design for the Roman Catholic Cathedral at Liverpool have very mean minds, for no man who is an artist, great or small, fears to allow other men's art to influence him.

But why should Niemeyer's Cathedral at Brasilia be the only building that Gibberd has ever seen in his long study of architecture? Apart from the first-rate plan the simplicity of the form recalls the abbot's kitchen at Glastonbury and the directness of the structure the superb lantern at Elv

In looking closely at Gibberd's design it was refreshing to realize that the principles of structure and form remain as they always have been and that the only thing new in it is the fact that it has been designed today.

Yours, etc.,

H. A. N. BROCKMAN.

Sir,-Despite the topical comparisons made between Mr. Gibberd's Liverpool design and the more curvaciously graceful one for the cathedral at Brasilia, it seems that Mr. Gibberd's carpentry in concrete has a parallel far nearer home. A glance at the model of the great timber structure which supports the octagon at Ely suggests that the Liverpool design is a good deal closer to William Hurley than to Nervi or Niemeyer; whether Mr. Gibberd had the Ely octagon consciously in mind when making his Liverpool designs I do not know.

The difference between Ely and Liverpool will lie in the exposure of Mr. Gibberd's amazingly slender main structural members, the great timber baulks at Ely being concealed, from without and within, by stonework or wooden vaulting. The Liverpool building will certainly seem less graceful than the lovely Brasilia design, but Niemeyer has no equivalent of the Ely lantern to support, and Mr. Gibberd's Cathedral will have a very respectable architec-

When one comes to consider the array of dissimilar side chapels suggested for Liverpool another parallel comes to mind. In their more compact and continuous construction the chapels provided for in Mr. Gibberd's design will somehow recall the accretions, of varying mediæval or Baroque dates, which partly surround Charlemagne's circular Dom at Aachen.

Yours, etc.,

BRYAN LITTLE.

Sir,-It must have come as something of a shock to many of your readers-especially those who are Roman Catholics to see the design that was placed first in this competition, particularly as it was thought that the inclusion of a RC architect as one of the assessors might tend towards achieving a measure of traditional architectural sanity in making the award.

The winning design looks like a rocket leaving a circus tent—'from the clowns to the clouds'—and completely lacks every refinement of the cathedral designs of Scott and Lutyens as well as the subtle contours of the buildings of Luigi Nervi, the engineer designer of Italy.
Why does it have a belfry? Would not an electric gadget

on the roof be more appropriate?

The perturbing fact is that, firstly, as nearly 300 designs were submitted, there must be some that are better than the one selected. Which casts doubts, of course, on those responsible for the selection.

There is, however, some comfort in the fact that those in authority in Rome may considerably amend the winning design, as not long ago they actually forbade worship in a RC church in Pampulha, in Brazil. And it is also likely that the local authority that has to approve the permanent stability of the structure may call for drastic changes.

The 'wind of change' may therefore bring great improve-ments in Gibberd's cathedral—and many of your readers will, I am sure, agree that there is plenty of room for them.

> Yours, etc., SIDNEY LOWETH.

Sir,—There appear to be trends in architectural design at the moment which are more than normally divergent. The extremes are the New Brutalism on the one hand and Liverpool Cathedral competition entries on the other.

The rationale behind the one needs little justification while the processes of thought behind the other are, to me,

obscure.

It is possible that others of your readers may find themselves similarly situated and would be interested to be given enlightenment by someone having the insight on the theoretical plane, such as a PhD.

Yours, etc.,

A. A. MACFARLANE.

P.S. Issue No. 34, 24/8/60, Letters. First letter, last word: 'opacity' if you please, not 'capacity'!

### Architects for RFAC

Two architects, Sir Hugh Casson and Raymond Erith (the architect for the Downing Street rebuilding), have been appointed members of the Royal Fine Art Commission. Henry Moore, the sculptor, has been re-appointed to the commission and Arthur Floyd, a civil engineer, replaces another civil engineer, Sir Allan Stephen Quartermaine.

### Commonwealth architects' conference

Representatives of architectural societies in the Commonwealth are meeting in London at Portland Place from September 19 to 23 as a preliminary to a major Commonwealth conference which is being planned for 1962. This is the first representative meeting of Commonwealth architects specifically to discuss their common problems, and follows Commonwealth visits by RIBA presidents—Kenneth Cross in 1957 and Sir Basil Spence last year.

There are many issues for discussion. The RIBA, for instance, would like to see complete freedom established for an architect who is educated and registered in one Commonwealth country to practise in any other Commonwealth country, and it is anxious to assist the less developed countries. In fact there is a considerable movement of architects within the Commonwealth.

#### **BASA** conference at Balliol

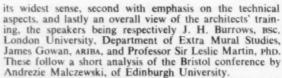
A second conference on architectural education will be held by the British Architectural Students Association at Balliol College, Oxford, from September 19 to 21. The profession will be invited to participate as associate members of BASA.

The first conference, held at Bristol, considered architectural education as a process of analysis, synthesis and production.

In this conference, architectural education will be studied in greater detail in relation to:—1, historical background; 2, trends in architectural practice and the building industry; 3, architects' responsibilities; 4, wider aspects of education; 5, examinations; 6, teaching methods; 7, school facilities.

The three main papers will tackle architectural education from three points of view—first from that of education in

The Cooper's Row site (marked x), which was recently the subject of a public inquiry, in relation to the Tower Hill comprehensive redevelopment scheme near All Hallows Church. The developers have related their scheme to the comprehensive plan which caused much controversy



The papers to the full conference will conclude with one on the history of architectural education by Michael Cassidy, Bartlett School, and Rodney Mace, Regent Street Polytechnic.

Accommodation has been booked for 100 places. The cost per head will be 66s. Applications should be made to the permanent secretary, BASA, The Building Centre, Store Street, London, W.C.1.

### Campaign for school facilities

BASA has set itself the task of trying to improve school facilities. The first move in this campaign will be a comprehensive questionnaire which will be introduced at the conference with the object of finding out exactly how schools are equipped with libraries, workshops, studies, common rooms, etc.

### Minister approves Tower Hill office block

Permission for a multi-storey office building on the site of 8-10 Cooper's Row, Tower Hill, London, has been granted by Mr. Henry Brooke, Minister of Housing and Local Government, following a public inquiry, held on June 8 (see picture this page).

The inspector who held the inquiry said in his report to the Minister that the crux of the matter was the height of the main block which would be 12 storeys. The London County Council, supported by the Royal Fine Art Commission, considered that it should be reduced to eight storeys. A difference of about 40ft was in dispute.

The inspector thought that from most viewpoints the building would not be viewed in conjunction with the Tower. He considered that the additional four floors would not result in a structure out of scale with the precinct or detrimental to the Tower or other buildings.

The Minister noted that the 12-storey block had been re-sited to be set back from the frontage to Cooper's Row, and this he thought 'would be less obstrusive than in the position in which it was shown to the Royal Fine Art Commission'. The proposals, on behalf of the Bernard Sunley Investment Trust Ltd., provide also for five-storey and three-storey blocks on the same site.



### diary

### The Building Centre

Exhibition of designs for Liverpool Roman Catholic cathedral closes I p.m. Saturday, September 17.

Rural Industries Bureau exhibition of craftsman-made furniture continues until October 7 (10 a.m.-5 p.m., closing 1 p.m. Saturdays).

### The Architectural Association

September 21, at 6.15 p.m. Illustrated talk for visiting overseas architects and students. 'Office Building (Castrol House)', Edmund Ward, and 'Architect's own house at Blackheath', Peter Moro. Admission by ticket only. At 36 Bedford Square, W.C.1.

### The Design Centre

September 19-October 29. Exhibition: Heating your Home. 9.30 a.m.-5.30 p.m. (until 9 p.m Wednesdays and Thursdays). At 28 Haymarket, S.W.1.

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# the future of architectural education

G. Grenfell Baines, OBE, a member of the Committee of the Oxford Conference on Architectural Education, expresses in this article some of his views

ARCHITECTURAL Education involves many matters, but two discussed at Oxford last year seem to be of immediate importance to the profession. The first is intake, and the second what kind of education does the potential Architect need? Intake is concerned with Community needs, while "kind of education" basically involves Industrial and individual needs.

#### Intake

To deal adequately with intake can neither be easy nor quick. A strong statistical survey must be made, wider and deeper than the figures supplied to the Conference. For example, comparisons with other countries can only be useful when these proportions. Architect to designed Building work, and Architect to all Building work, are known. Then, as at least a third of the Building Industry in this country is engaged on maintenance, we should know first how much of this work needs designer attention, and how much gets it-we then require corresponding statistics for other countries. Obviously, a country that is not building many new buildings will not need many Architects, yet it may have a larger population than one which is building furiously and constantly demanding design services. Some countries are "old" and possess a wealth of good buildings-their population may be almost static; other countries may be so preoccupied with defence or bullfighting that the margin of resources they are prepared to devote to new building bears no relation to that of a country with a cold climate and a social conscience. One could continue, but, in short, it is not enough to base an intake policy on the Architect population ratio for other countries or even on whether we think the individual Architect earns enough.

We are told Great Britain has more Architects per head of population than most other countries, yet speaking for our office and of what I hear from most of my Architect acquaintances, we cannot get enough men to do the work in the time it is wanted. Intolerable pressure was caused by the war, but even now, 15 years after, the pressure still seems almost intolerable.

All this is not to dismiss the question as too difficult, but to clarify its long-term nature and the need for deeper research before any definite policy to expand or contract is decided on. The most immediate, though indirect, step to a contraction policy is that of raising the standard of education at intake level. There may be reservations about this—certainly it cannot be considered a guarantee of future quality, but at least the step may be tried as an experiment. Meanwhile the most extensive enquiries should be made to provide evidence from those teachers whose experience has given them full opportunity of noting how students coming to the same school from "O" and "A" levels have fared.

Different methods of working could obviously affect the Architect Building ratio — every practising Architect knows that for one reason or another the efforts of different men can result in the production of more or less building in the same time of architectural effort, and while it is true that quantity alone is no measure, we in our practice have seen such wide gaps in quantitative performance as to warrant intensive research into methods which we are still conducting.

### Kind of education

This introduces the second matter—kind of education—as it affects the attitude of the individual architect entering the field of practice.

One of the greatest confusions, which seems to affect not only the new graduate but the profession at large, lies in interpreting the nature of design. I could not pretend to follow the whole of the Oxford discussions on theory of design, but it might be that absence of a theory of design is partly due to confusion in the concept of its nature.

To many of the school-trained men just entering our office (practically the whole of the 32 Architects working with us are school trained) "design" is a matter closely associated with graphics and often goes no deeper than the paper on which the exercise takes place.

In trying to decide how much a building owes to drawing and how much to thinking I have many times been forced to conclude that if only Architects could think as well as they could produce board and teesquare drawings, we might not only have better buildings, but a more apprecia-

continued on page 326

News continued

### High density schemes approved

The Minister of Housing and Local Government, Mr. Henry Brooke, has approved, on appeal, the high density development at Henley-on-Thames for houses, studios, garages and a 25-storey block of flats at Paradise Road, sponsored by Townmaker Ltd.; also the planning scheme for housing at Hall Road, Wanstead, on an application by Wanstead and Woodford Borough Council.

### Constructions overseas nearly doubled in five years

British contractors have increased the value of their construction work overseas by nearly 80 per cent since 1954-55. The figure for the 12 months ended March, 1960, was £124 million, an increase of more than £3½ million over the previous 12 months. This represents the work of 67 firms (four more than the previous year) in nearly 70 different countries. The total value of overseas constructional work in 1954-55 was £70 million.

### Safeguard natural landscape, says Minister

The established landscape of the British Isles is being destroyed piece-meal, in spite of the excellent work of preservationist societies. This is the contention of the

Institute of Landscape Architects, which met in Edinburgh last week for its annual conference. The point was taken up by Mr. T. Galbraith, Joint Under Secretary of State for Scotland, who opened the conference on Wednesday. And, he stressed the responsibility of the public authorities.

tive public.

The constant aim of public authorities in setting down new buildings, he said, should be to safeguard the natural landscape wherever possible. Landscaping was not an ingredient to be added as an afterthought, and where landscape had been destroyed it must be restored in an imaginative way.

'One of the things that astonishes me about modern architecture', said Mr. Galbraith, 'is the care that is lavished on the façade of a new building, compared with the apparent lack of care which is shown for the look of the skyline'.

He thought public authorities sometimes took too narrow a view of their responsibilities.

### Woman architect gets hospital post

Miss Frances J. H. Mercer, ARIBA, of Aberdeen, has been appointed deputy regional architect to the North-Eastern Regional Hospital Board. She was formerly senior assistant architect to the board.

If a moral is to be drawn it is that beautiful drawing is no guarantee of good design, and this raises the question, how much does practice in drawing develop a capacity to think comprehensively? For if design is not comprehensive then it is out of balance and on most of the occasions our services are needed, to be out of balance is to fail.

To me the nature of design is balance the highest possible balance of, suitability for purpose, soundness of structure, economics and site. It follows that if all the positive characteristics of these individual factors are sought out unselfconsciously and synthesized with skill to the highest degree, a design of significant individuality and beauty will emerge.

Truth is Beauty.

Where does this bring one in thinking of the "kind" of architectural educa-tion we need? It has brought me to concluding that the student is allowed to use up far too much of his time producing drawings in the belief that he is designing buildings. I did it myself at school and it was wholly delightful -that is the trouble; undue indulgence in the delights of draughtsmanship can turn the excercise to craftsmanship and when this happens Design goes out and the student is halted on his way to being an Architect-not only halted, for when drawing becomes the end he has turned off and may therefore never arrive.

Hard experience shows that one doesn't "design" a building without knowing a great deal about the factors of design, sufficient to be able to evaluate them simultaneously to the point of distilling their essence.

It would obviously be foolish of any practitioner to expect the newly graduated Architect to be able to 'design" in this sense-but it is obviously even more foolish to develop the belief in a student that because he has almost perfected an ability to produce graphic design which bears a resemblance to a building, he can ipso facto design a building. Yet that is what most of them believe. Is it really surprising therefore that in spite of the brave spectacular shows on the Studio walls at year end, we still see very few really good buildings? Not a bit. Nor is it surprising to hear-when enquiring at school into this deficiency on constructional thinking or that default of functional imagination or this complete ignoring of economics, or site—"We have not enough time"

Were the nature of building design to be fully understood, it could be seen immediately that such matters as arranging spaces for purpose, elements for construction, the whole for economy to suit the site (even the underground nature of which might characterize the design) must be fully appreciated and understood before an Architect can start to design. This being so, it must be admitted that to teach Architects in a way that leads them to believe they are designing when they produce a good-looking drawing in their first year is, to put it simply and mildly, leading them astray, but worse than that, it is leading the Schools astray!!

There is time for the Staff to teach, and for the Student to effectively absorb, the deeper foundations of basic knowledge required to lead on to the most imaginative designs. And the remedy in a few words is "take it out of drawing that is no better at best than graphic design". But as Architecture is so much a visual matter and drawing is so effective a means of communication as well as such an attractive pursuit, it is necessary to be very careful when making adjustments of time in the school curriculum.

Suggested methods

Only "natural" methods will be successful. For example, an enlivening and extension of the essential studies in Structure, Function and Economics to the point where "there is no time" for elaborate board and teesquare drawing. Strong encouragement to sketch and photograph People, Buildings and Objects in spare time. As in our office we are trying to cut out board and teesquare work by using faintly squared paper (in a way a mechanization of drawing), it seems almost practicable now to eliminate the teesquare and most drawing instruments in the schools. It seems necessary to help students to understand the depth of imaginative thinking needed to visualize functions, the flow of structural stresses, of air currents, of the effects of wind and weather and industrial pollution outside a building, and to appreciate that all these demand much more of the imagination than producing patterns on paper, arresting and pretty though they might be

It seems necessary to help students to understand that while ideas matter in design, the best ideas for a building design arise naturally out of the conditions and not merely out of a selfconscious seeking in externals. Only in this way is it possible to develop the attitude that sees wholehearted devotion to the matters of the job in hand as a desirable end in itself and not merely a means (often seemingly disagreeable) to the end of a monument to the designer (so-called). Only in this way will it be possible to develop Architects capable of rising above their circumstances, of making a whole greater than the sum of the parts because having acquired a firm grasp

they can handle them.

If the entrance level is raised it follows that many boys will enter Schools of Architecture having a good knowledge of the Mathematics and Sciences necessary to a full understanding of structure and materials; then, immediately after entry, is the time to extend and strengthen these basic knowledges

The student will hardly ever be in a better position to benefit from such further training. Knowledge of the nature and behaviour of heat, light and sound, and of chemical reactions are all present, awaiting extension and application-it seems folly to postpone or curtail this in the pursuit, however delightful or speculatively developing, of graphic design. It may be going too far but I would put encouragement to develop an ability to play the piano as high as wielding a pencil in the process of developing taste and sensibility in the Student's early years; certainly the ability to use a camera, to discriminate in choice of dress, objects and music, are all necessary attributes to foster in the beginning, as complementary elements in the main diet of acquiring the know-how necessary to design in the sense already described.

#### Some conclusions

Once it is accepted that Architecture. like all creative arts, will derive its best inspiration from a selfless devotion to those human and material aspects peculiar to the time and place of its creation, which is, in brief, a statement of the nature of design, then the nature of the designer and the nature of his training becomes clear.

To recapitulate and develop what has been said, the Architect needs a calmness and poise of mind that can work and wait for beauty, not pursue it superficially and vainly: a capacity to visualize and understand with sympathy the activities of people—this implies also a capacity to respect the past activities of people, particularly the designers and builders (often the same persons) of past ages.

A capacity to visualize the flow of stresses within all the elements and parts of a building right down to a door handle and the capacity of all these parts, where they can, to act

together.

A capacity to visualize the actions of wind and weather on exterior edges and surfaces, a capacity to visualize the action of cleaning, maintenance, and actual use, on interior edges and surfaces.

A capacity to visualize the effects of air movement, radiant and other forms of heat, of light and sound, as they affect the physical comfort of the

users.

A capacity to assess economic priorities and so to control, within specified limits, the disposition of finance.

A knowledge of the chemical composition and physical nature of materials.

A knowledge of the possibilities of tools and machines that form, assemble and erect and of the men who operate them.

A capacity to speak and to write clearly, to draw and to use a camera,

in short to communicate.

With all these a capacity to think comprehensively, and a positive passion to bring to the highest possible conclusion simultaneously all the considerations that are conscientiously seen to be valid.

### The Architect and Building News, 14 September 1960 architecture in school

In this feature exhibitions of work by students at the Polytechnic, Architectural Association and Bristol School of Architecture are reviewed by John Smith



John Smith AADIP, ARIBA

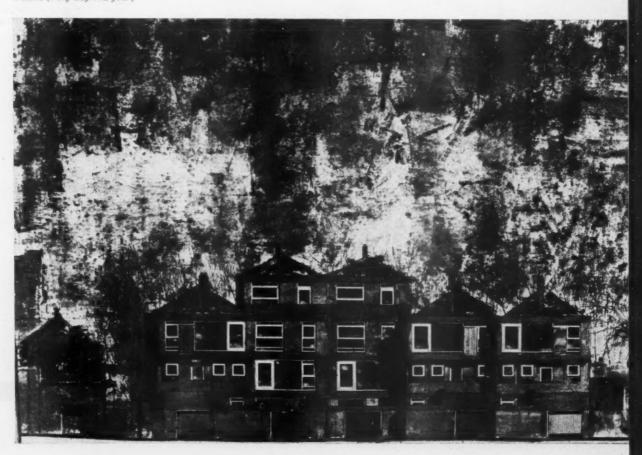
never without interest and it is perhaps unfortunate that the profession at large finds little time to visit them. It is true that they are often hastily staged affairs, seldom publicised in advance, open for too short a period and then at inconvenient times, and are perhaps too consciously designed for visiting mums, dads and school governors rather than for the more discerning inspection of older professionals. It is also true that the schemes exhibited are usually selected by the staff giving an establishment bias to the view of the work of the school, a view that is further coloured by apparent contradictions in the actual method of selection with its factor of "exhibition suitability", a factor too often synonymous with slickness of presentation. Inevitably, good work may be rejected because it does not

THE annual exhibitions of work staged

by our schools of architecture are

display well and inferior work be included for its brilliance of presentation. The picture of the school that emerges is therefore distorted (and detecting the twists is a fine game for the critic and school baiter) with the individual items of work displayed always of interest and sometimes important. Events such as these enable the outsider to see something of what is going on in a school (if only a very small part of the whole) and are thoroughly worthwhile. A few hours spent looking into the students' work and one sees in microcosm our architectural dilemma. Given the opportunity of seeing the work of more than one school, noting the similarities and contrast, the universality of the dilemma becomes apparent. This year, the exhibitions at the Polytechnic, the AA and Bristol were somewhat similar and yet the three schools vary considerably in size and character.

An atmospheric drawing of a design for five houses in Hampstead: Clarke (Poly day 3rd year)



### The Polytechnic

With its separate day and evening courses, the Poly is by far the largest of the three and in fact it is the second largest school in the country, the Northern Polytechnic having a slightly greater number of students. Totally inadequately housed in surroundings of the dreariest institutional squalor, the air fragrant with the scent of Jeyes Fluid laced with Ronuk, and combat-ing, in addition to its environment, the deep-rooted and traditional in-feriority feelings in both its staff and students, the Poly has in recent years, and in spite of all its difficulties, greatly improved its standing. The work produced has been of a quality to place the Poly amongst the best schools in the country. This year's large and rambling exhibition showed that the standard is being maintained although the sense of excitement and spirit in the school that three years ago produced "bowellism" and the magazine Polygon was less evident.

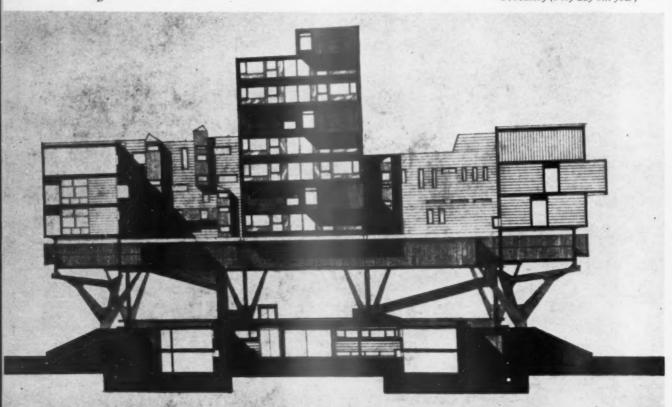
The work of the day and evening schools was exhibited separately, enabling comparisons to be made between the two courses, both of which are now fully recognized for exemption from the RIBA Finals.

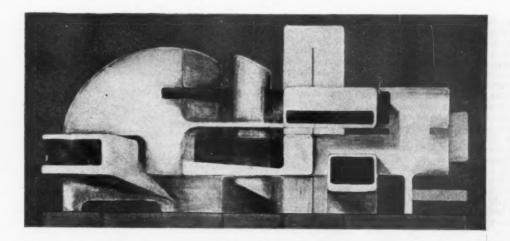
Generally speaking, the standard of the day school work in the lower years was superior to that of the evening students, but in the later years this difference was not so noticeable, several of the final Thesis schemes prepared by evening students being of a pared by evening students being of a remarkably high standard. Stylistically in both sections the designs ranged from fashionable chunky brute to latter day bowellist fantasy with the occasional "square" scheme employing curtain walling. As usual the designers of the more flamboyant schemes showed few desayings degrant schemes showed few drawings demonstrating how their designs might be built (presumably there is too little time for such a mundane matter) and yet one felt that as far as a knowledge of conventional building techniques goes the students are probably no less competent than their professional peers. This point, corroborated in the work of the other two schools, is one that will be returned to in the final summary.

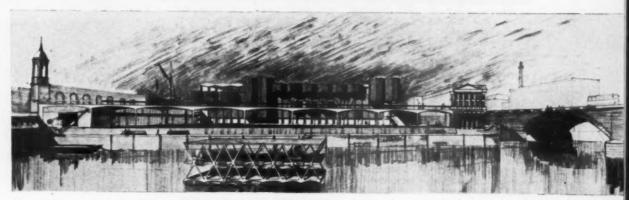
Also on show at the Poly was work by students of the Departments of Surveying and Town Planning, a project for a new town at Great Missenden in the latter section being the only item of distinctive merit.



Two thesis schemes: (A) Cluster pattern; sub-centre: David Owers. (B) Suitably grim and a long way to jump; Dartmoor Prison Section: B. Massey (Poly day 5th year)







Top, a penthouse club in the bowellist tradition: Ian Horton (Poly evening 4th year). Under, maritime museum: Robin Lovell (Poly evening 6th year)



### The AA

As everyone knows, the AA is one of those institutions that are always described as unique. Proud and jealous of its reputation as a leader in the field of education, and often as maddening to the outsider as it is frustrating to those inside, the AA yet manages to stay out front. In true aristocratic and ostrich-like fashion it hates being told that more backward schools are fast catching it up; and perish the soul with the temerity to suggest that it has in fact been overtaken. But just as in regarding a leader one is justified in looking for the essential qualities of leadership so, at the AA exhibition. one expects to see evidence that the work is better or has some additional qualities than that produced elsewhere. As the years go by, so this evidence becomes increasingly difficult to discern; which does not mean, of course, that the AA is backsliding, but does prove that tremendous strides have been made in other schools, many of which having incorporated into their curricula, and further developed, originally AA-inspired reforms.

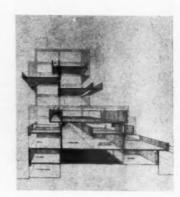
The well-presented and easy to follow exhibition was smaller than those of previous years. Most projects were adequately illustrated and it was helpful finding the set programmes exhibited. The general impression conveyed was one of workmanlike thoroughness lacking somewhat in spirit and enthusiasm. From the work shown one feels that the AA student

today is almost as repressed as his professional counterpart, working to rule, and holding his imagination and natural exuberance in check. Only to the most timid amongst us can this restraint be entirely commendable, for in students and the work they produce there should surely always burn the spirit of revolt.

Faced with a programme that included luxury housing at Regents Park, the 4th year contained no one (apparently) bold enough to challenge the idea of building luxury housing there anyway, and only one student had the wit or courage to preserve the Nash façades to the Park. From the evidence, a social conscience is one it would seem unfashionable to possess.

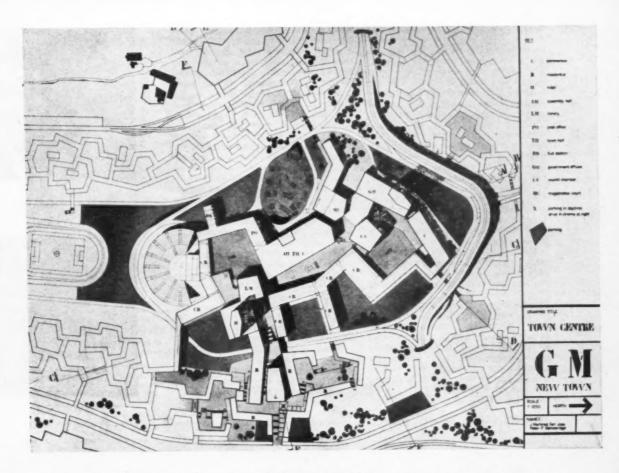
Of course there were the occasional somewhat preposterous schemes, including a curiously pre-Raphaelite 4th year housing scheme with a Kremlin-like quality and no sign of Marx anywhere. But these were as dying gestures in the bleakness of brute conformity.

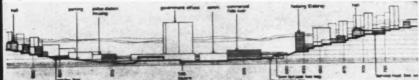
Models were there in profusion—a field in which the AA has always been supreme; there were many fine drawings to disprove the old belief that AA types are only good at drawing their salaries; and for a brief spell there was even an entertaining and hastily contrived salon des refuses (the dustbin) organized by students, but this was speedily suppressed by the school authorities. These were the brighter and nicer things about an exhibition that was disappointing because one expects so much more.



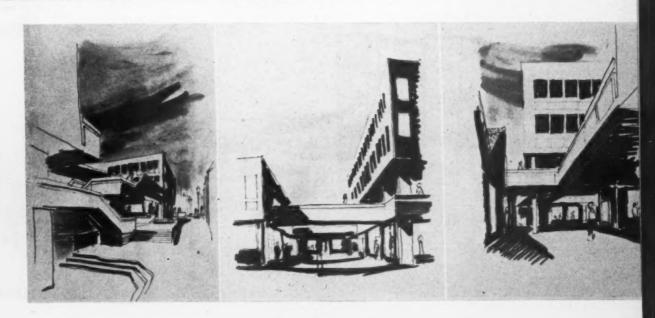
Cleverly planned in the left-openchest-of-drawers fashion. Mass housing thesis: Above, section, below, perspective: Colin Henry (Poly evening 8th year)







Above and left, Great Missenden new town project, with skilful use of the natural terrain: I. Martinez San Jose and Peter F. Stonebridge (Poly Town Planning). Below, three of the sketches in a copiously illustrated report, Aylesbury redevelopment thesis: Garth Janssens (Poly evening 8th year)



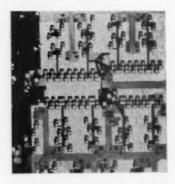
### Bristol

In comparison with the Poly and AA, the RWA School at Bristol is small. The setting and atmosphere is provincial and down to earth. The city boasts a hard core of old guard architectural firms enlivened by a small ginger group of post-war practices. There are few, if any, of the now middle-aged FOB type "boys" who have gummed up the works of the modern movement elsewhere. The distinction between the old and the new in architecture, as in the affairs of the city and politics generally, is fairly sharply defined. In this environment the Bristol school and the younger architects associated with it, fulfil an important cultural function in the community, in sharp contrast with the London schools, who operate quite separately and seemingly in a cultural vacuum. It is hardly surprising that the work in the exhibition at Bristol reflected this difference of approach.

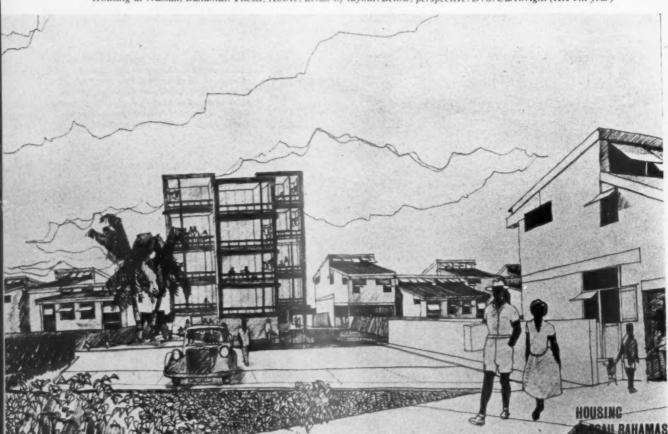
The work generally was of a standard comparable to that of the two London schools with a pleasant blend of competence and imagination. Many of the designs were in the fashionable chunky brute yet slightly effete style—like Cliff Richard's songs in brick and concrete—a very much Living Doll

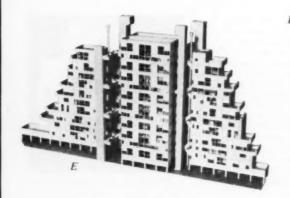
architecture, with nobody quite knowing how it is to be put up, but for the present it "sends" you. But if there was the inevitable sense of unreality in the architecture produced, several of the programmes posed real problems indeed. Difficult areas in the district (such as Hotwells) have formed the subject for redevelopment by senior students, and the results of their researches and final schemes have been inspected and noted by the local authority. Third-year students under the auspices of the local Civic Trust have designed a scheme for cleaning up and repainting Old Market Street, a project which may well be carried out. There have also been joint programmes with students of the Bath Academy of Art. Schemes such as these help to create and maintain interest in the work of the school by both students and those outside and it is here that the London schools could well take a leaf from the Bristol book. Did any London school attempt to tackle the Piccadilly problem at the time of the famous enquiry (for example)? It would seem not, for no schemes have been published, and it has been left to the enterprise of a London newspaper, The Star, to promote a competition the conditions for which might well have formed a school programme many months ago.





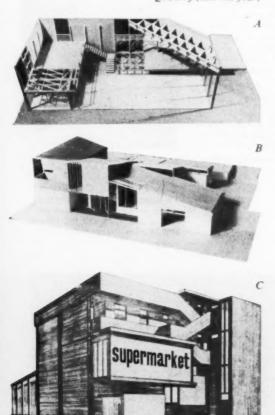
Housing at Nassau, Bahamas. Thesis, Above, detail of layout. Below, perspective. D. S. Cartwright (AA 5th year)

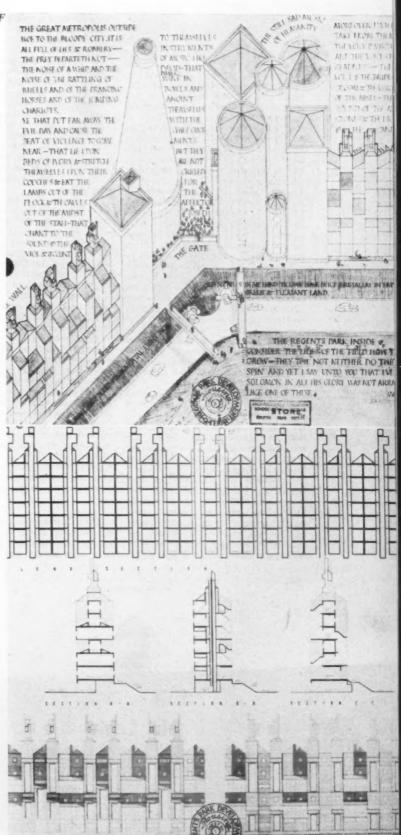




Below, (A) one of the many fine models in the exhibition. Village hall structure: J. S. Abbott (AA 2nd year). (B) House at Hampstead: Carl R. Rees (AA 1st year). (C) Of somewhat indeterminate scale and typical of its genre. Supermarket: Bridges (AA 3rd year). (D, facing page) Starting with a village study in the second year, in the third they tackle a small town. Aylesbury redevelopment: Farrow, Evans and Dunham (AA 3rd year). (E, F) Luxury housing at Regents Park. Above, model of an appropriately expensive looking scheme: H. W. Tang and B. Knight (AA 4th year). Right, another solution to the same programme provides the problem scheme of the year. An eyebrow raiser in the AA tradition:

Q. Terry (AA 4th year)





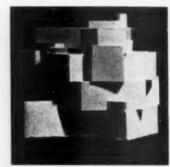
#### Summary

In considering together the work displayed in these three exhibitions several factors emerge which may be of interest. It has been suggested that the students' schemes, so similar in many ways in all three schools, emphasize a common dilemma that confronts not only students but many members of the profession. Seen in the simplest terms, the alternatives are whether to try to do that which you believe to be right yet which you cannot do, or to do that which you can do yet you believe to be wrong. Students and the staff who guide them are, like most of us, inconsistent in the way they tackle this problem. In the field of abstract design (or architecture) it is the first alternative that is selected—give the boy his head, spur him on-conventional answers will be rejected quite naturally, and perhaps rightly also, and a new style or styles will be born; an architecture inspired by anything from animal to crystalline forms, sculptural in concept and often inhuman-detached so reality that it defies realization. This does not invalidate the architecture in embryo produced, but well might an old man say on looking at some of these schemes, "Once the schools were all Jaggard and Drury, now alas they are jagged and dreary

Yet in other fields and notably those of practical exercises involving the production of working drawings, it is the opposite approach that is adopted. Bold and unconventional designs are forced backwards into a contemporary or historic technological and legalistic (byelaw) straight jacket and, whilst the resultant sets of drawings may please an External Examiner, for whose sole consumption everything the student produces appears ultimately designed, it seems unfortunate that for the sake of expediency the architecture has been abandoned. Why cannot the approach to design in the abstract that is tolerated and encouraged, be applied equally to the more mundane aspects of building? Expressing the search for a new technology and devising the method, however novel, by which the student visualizes his design being built, could produce an element in these exhibitions as stimulating as much of the initial design work itself. To seek to lead in one field and not in the other is a contradiction of purpose that can only lead to bewilderment for the student, disappointment for the staff, and a confused reaction in the profession in which the student must ultimately take

In raising this issue, which may seem fundamental, it is not the intention to pillory the schools but, just as many students at present appear unsure of themselves and bewildered, so the schools appear uncertain of their precise function. Are they there to turn out architects as their name implies, or assistants, or assistants who will ultimately become architects, or all three, or what? Are they to produce machines that will func-tion independently, or specialized components for larger machines? This is not the place to discuss the vexed question of the two- or multi-tiered profession with all its concomitant problems, but it would seem necessary in the present confused situation for each school to clarify and make known its own views on these matters so that students are aware of developments mooted and in which they may find themselves involved. For this question, together with the other difficulties confronting those concerned with education and the profession, deserves the widest possible discussion.

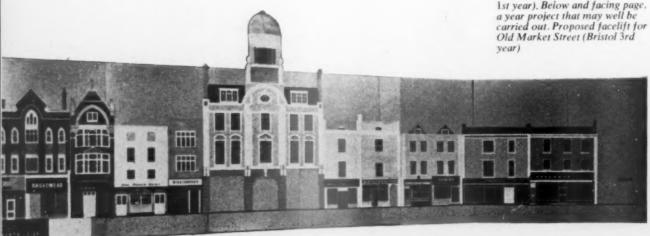
There are several other aspects of the problem which seem worthy of further consideration. It has already been suggested that one of the troubles



A public house by Adrian Sansom. Above, a nice chunky model and (facing page) the plans work out like this (Bristol 3rd year)

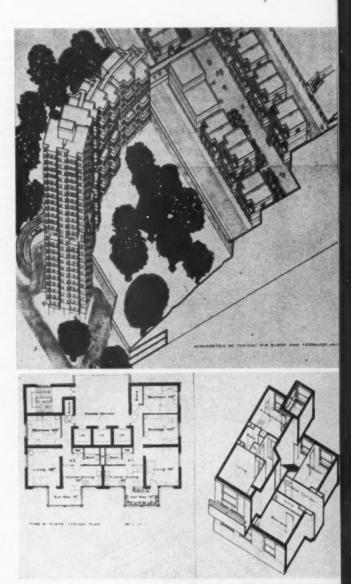


Above, handgrip programme. Table knife: Peter Coe (Bristol 1st year). Below and facing page. a year project that may well be Old Market Street (Bristol 3rd year)

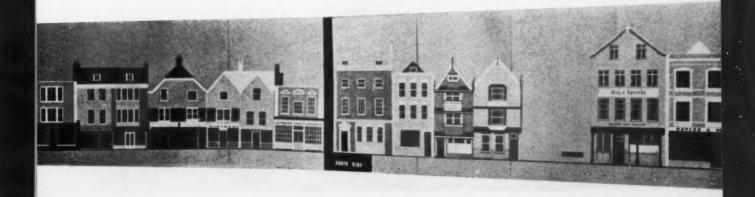




A public house by Adrian Sansom



Above, housing thesis by Timothy Tinker. Top, axonometric of typical fin block and terraced units. Under, plan and axonometric (AA 5th year)

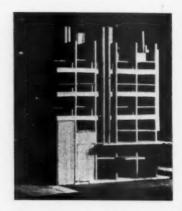


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at present is that whilst at one level the reality of a project can lead to imaginative work, at another (wrongly assumed to be lower) the reverse process occurs. Were the schools able to conduct technological research in such a way that they became true teaching laboratories, able to propose and develop advanced building techniques by their own initiative, the present debilitating nature of this side of the school work could be transformed to one of stimulation. This implies a new and additional function for the schools, placing them in the forefront of the development of both architecture and education.

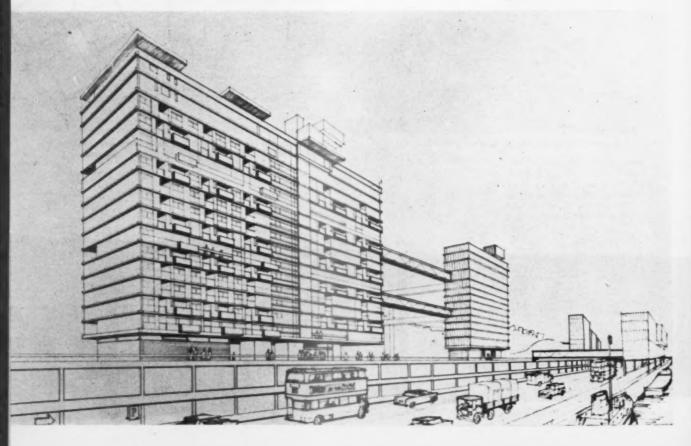
It also implies that changes in attitude within the schools will be necessary. The established structure of courses will need to be overhauled; the horizontal watertight year pattern may need to go, to be replaced by vertical groupings; the near sacred order of design from one little box to a highly complicated set of boxes may even be reversed; socio-political and economic factors may again be debated within the school, as they were briefly in the period just before and immediately after the last war; and changes in the type and method of staffing may have to be made. Then will the schools be able to function more efficiently and usefully to serve both the profession and the regions and communities in which they are established. Student, post-graduate and staff effort is a commodity too useful and precious to be wasted, as much of it is at the present time.

The three schools whose exhibitions have here been discussed are each facing changes in addition to those which involve architectural education generally. The Poly is destined to become the architectural school within the proposed new College of Architecture and Building; the AA, whose present principal, Michael Pattrick, retires in 1961 after a record innings of 10 years, is contemplating major policy changes; and Bristol, only recently recognized for exemption from the RIBA Finals, is facing the further development such recognition usually entails. They are three good schools for whom the future holds much promise. Perhaps their next exhibitions will reflect still further some of the trends that have been mentioned. Meanwhile, the BASA conference at Oxford next week will provide students with a good opportunity of further discussing and debating the many and varied problems of architectural education.



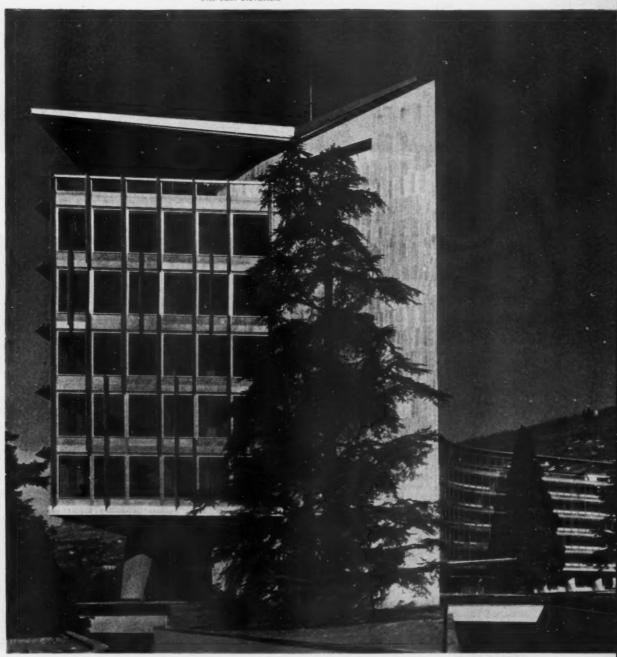
Above, structural model of Hotwells project: Peter J. Floyd (Bristol 4th year). Photos of the Bristol school work were taken by Adrian Sansom

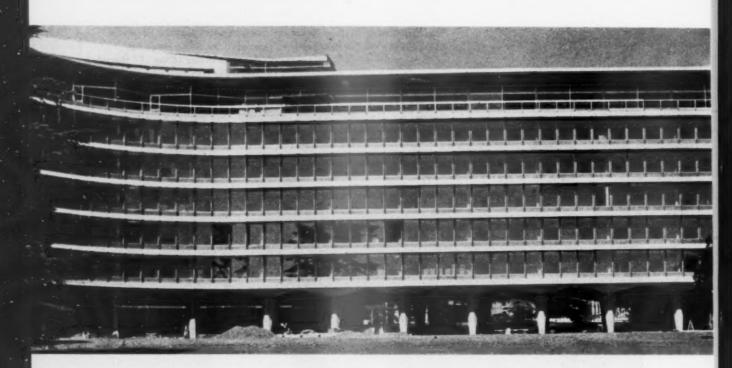
Below, one of several interesting schemes for Hotwells, a problem area in the district: Robin Wood and Roger Tucker (Bristol 4th year)



The American Institute of Architects has announced that the Reynolds Memorial Award for 1960 has been granted to the Swiss Professor of Architecture, Jean Tschumi, for his dramatic design of the 'Y' shaped, seven-storey Nestle's International Headquarters Buildings at Vevey, on the shore of Lake Geneva. The award is made annually to the architect who has designed the foremost contemporary structure in the world in which the creative use of aluminium could significantly influence the architecture

The east elevation





Above, the east elevation with (facing page) an oblique shot of the main entrance (west) elevation. Vertical aluminium fins on these faces help to exclude the sun, while on the south elevation (below) these fins are combined with horizontal strips for additional protection

THE Nestlé administrative building is situated in a large park on the shores of Lake Geneva.

It comprises five storeys above ground level for the offices and a sixth storey for a restaurant, dining rooms, hall, smoking room and conference room. Of the designs studied the asymmetric "Y" has been chosen for functional reasons and because of an aspect which is extremely favourable for all the office rooms.

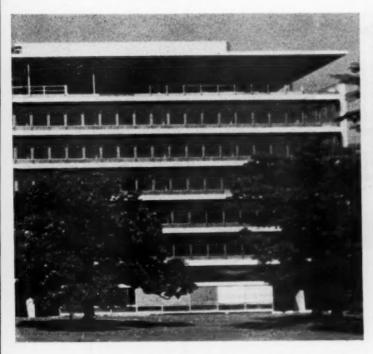
#### Construction

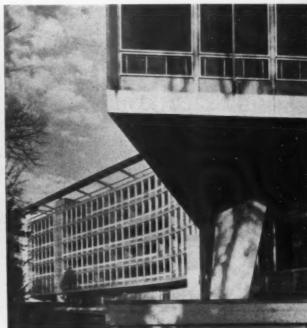
The basement (which contains a large garage and general service rooms), together with the ground floor, is constructed of reinforced concrete. Above this, steel construction is used. Floors are of corrugated sheet metal welded on to the joists and covered with thin flags of concrete, reinforced with a trellis. Oblique gables at the end of three wings of the building form a large reinforced concrete wind-brace.

The whole building has been designed so that detachable partitions can be erected on the centre line of window mullions in the five office storeys and they provide good sound insulation with respect to neighbouring areas.

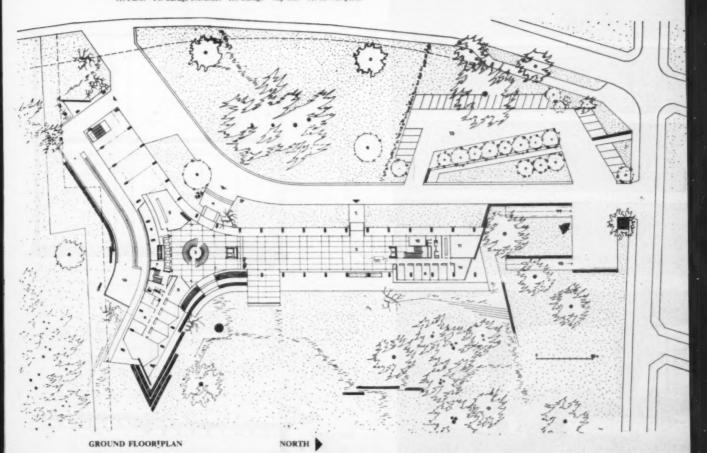
The entrance porch has been designed to sympathize with the remainder of the building, and by its form and thickness of sections constitutes a pure expression of aluminium.



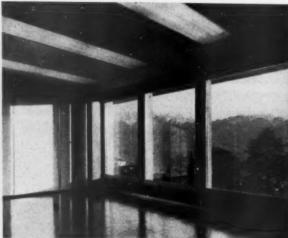




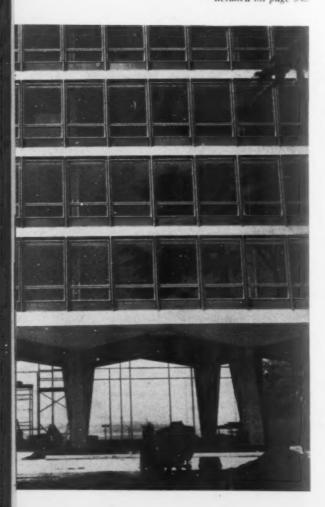
Ground floor key: 1. Managers' entrance. 2. Main hall. 3. Staff hall and staircase. 4. Staff entrance. 5. Mail room. 6. Offices. 7. Sickroom. 8. Main cashier's office. 9. Reception—waiting room. 10. Office telephone switchboard. 11. Telephone exchange. 12. Motor car servicing. 13. Park. 14. Garage entrance. 15. Garage—way out. 16. Service yard.

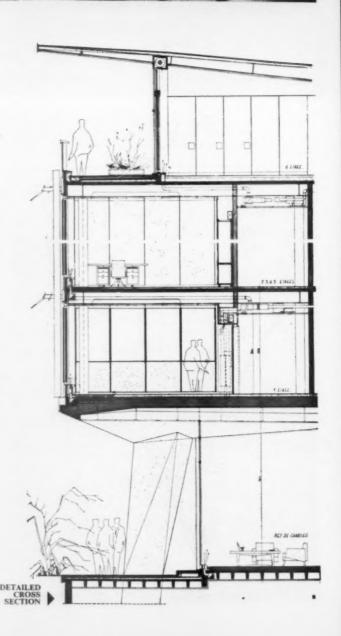






Above left, a personnel restaurant on the sixth floor. Right, a typical office with a view over Lake Geneva. Structural details indicating the extent to which aluminium finishes have been used in this building are shown right and on the facing page. An aluminium canopy over the main entrance is detailed on page 343





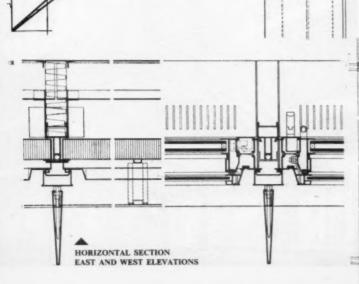
HORIZONTAL SECTION

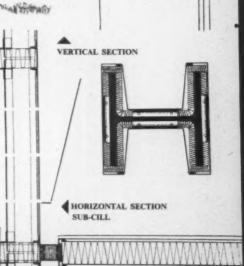


Right, vertical and horizontal sections through the south façade. The building is clad extensively with aluminium alloy sections having a slightly variable finish to give contrasting tone values.

Glazing between these members consists of one layer of blue non-conducting glass with double glazing as insulation. The aluminium is also backed with foam glass insulation. Below, horizontal section through vertical fins on the east and west elevations. Above, a detail of one of the secondary staircases

THROUGH WINDOWS





continued from page 338

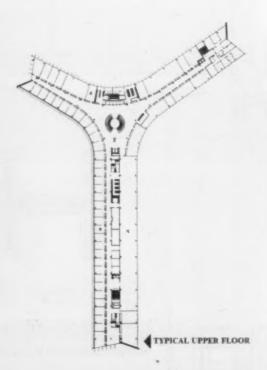
#### Services

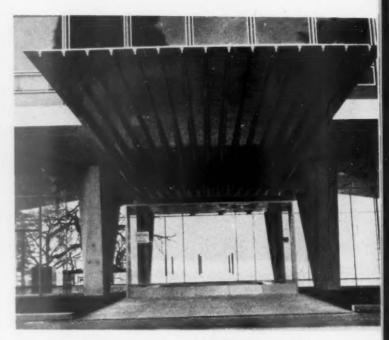
Because of the large areas of glass used, special attention has been paid to providing interior comfort. The whole building is air-conditioned, using the latest improvements to a high-speed system (double duct) with separate thermostats in each room. Air intake is provided for under windows without any noise and without creating a draught. The recirculated air is extracted at the rear of offices above the doors through sound-proofed ducts. In principle, windows are kept closed but they can, nevertheless, be opened by pivoting vertically. They are made of a blue non-conducting glass on the outside with a double layer of insulating glass on the inside. A slatted blind which is lowered automatically is fitted between these members.

In order to diminish the power of the sun (the window cill is only 12in high), much work has been done on designing the sun blinds. On the east and west sides, vertical strips support a horizontally projecting sun blind. All these windows and sun blind units are made of aluminium alloy.

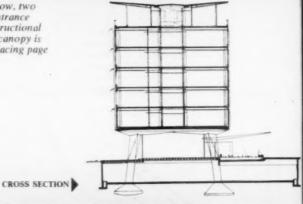
#### Finishes

The concrete of the ground floor columns together with the soffit of the first floor "platform" is left "fair face". Above this, the window grid is partly aluminium alloy with a natural oxydized colour and partly an aluminium alloy with the addition of silicon (perfected especially for the Nestle building) which becomes grey by natural oxidation. The whole architectural effect of colour on these large façades has been obtained by using contrast in these various materials.

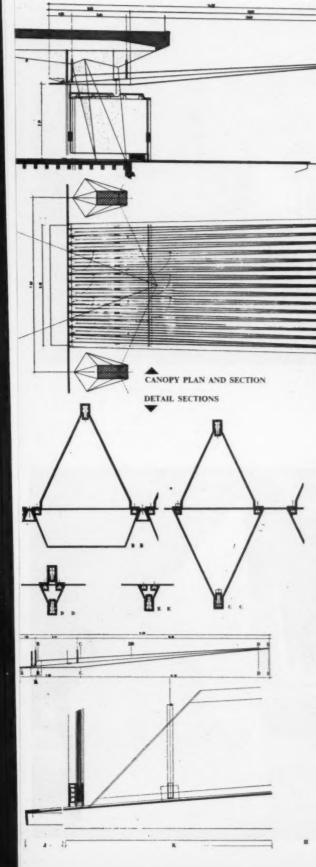




Above and below, two views of the entrance canopy. Constructional outline to this canopy is shown on the facing page







Above and left, the entrance porch has been designed to sympathize with the remainder of the building and by its form and thickness of section constitutes a pure expression of the material. Constructed of three millimetre aluminium alloy for the horizontal members and five millimetre for the sloping flats forming the V-outline by pressure of a lock-nut; it is 14ft 6in long with an overhang of 11ft





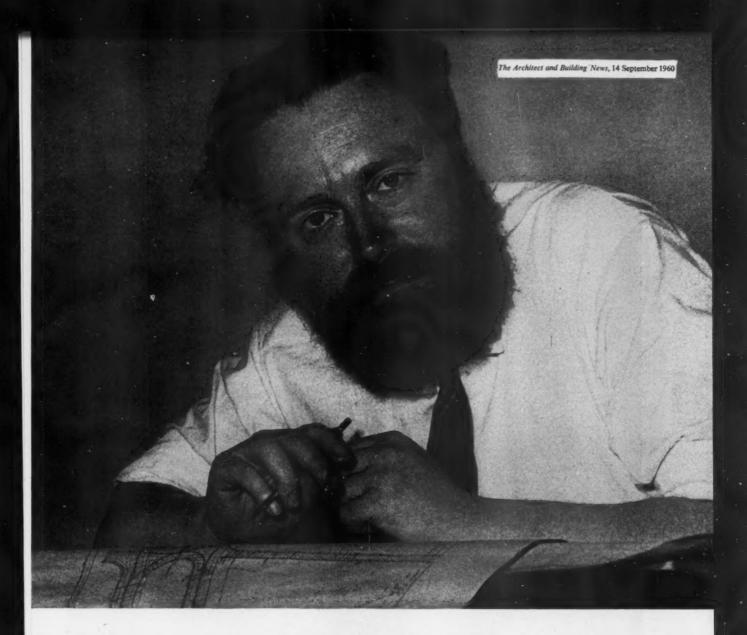


Top and centre, a
double spiral
staircase at the
centre of the plan.
Right, a small
staircase which gives
access to ventilating
equipment



Interior and exterior views of the main entrance hall and ground floor treatment show a remarkable consistency in design. This is reflected in floor and paving patterning, and the modelling of columns, ceiling or slab soffit





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- can be achieved with semi-skined laboration.

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#### 345

#### OFFICIAL PUBLICATIONS

 New Houses in the Country. Ministry of Housing and Local Government.

This little booklet might have been designed as an admonishment to country-lovers who see nothing wrong in building their retreats sporadically in all areas of high scenic value, of whom it would appear the advertisers in the Personal column of *The Times* recently may be typical:—

"Would owner of paddock, meadow, woodland, etc., in Sussex (or W. Surrey, Kent) consider selling to two country-lovers seeking peaceful rural site (with views) for erection elegant house (central heating) designed to harmonize with landscape. Daily reach London."

The booklet tells people why they cannot be allowed to build just wherever they think attractive. The foreword says that unspoilt open country has receded further and further from the townsman. Building of new houses in the countryside must be severely controlled to preserve land for agricultural use. Infilling of villages is encouraged (nothing said about purchasers being local residents only) or back land may be developed. Ribbon development must be avoided. Lack of public services may, however, prevent building. Building in open country is strictly controlled everywhere, to prevent building by a great many people who now wish to build there, resulting in houses being dotted all over the countryside or strung out along country roads. Green or agricultural belts exist around all villages and may not be eaten into except where land is specifically zoned for building. An existing building may, by repair and alteration, be given a new lease of life but reconstruction, involving demolition, may not be allowed. Designand appearance of new suitably sited houses are carefully controlled, as is the felling of trees, while, in the last paragraph, the text finishes with a welcome prompting to employ an architect.

A modest little booklet which should help Local Authorities, to whom it has been issued, by deflecting the wrath of thwarted intruders into the countryside. Copies are available free to all who are interested.

It is a useful statement of policy in an attractively coloured cover, quite unlike a Government publication. What one would now like to know is how some schemes get through, such as the new little bungalow in the bend in the road in the parish of Furneux Pelham!

 Underground Drainage: Questions and Answers. BRS Digest No. 134. HMSO. Price 4d, plus postage.

Information Digest of 25.11.59 gave briefly the subjectmatter of BRS Digests Nos. 124 and 125. It seems that these aroused considerable interest in the National Federation of Building Trades Employers whose Research and Technical Information Committee subsequently had a meeting with the BRS. The new Digest reports this

Digests 124 and 125 indicated that new procedures should be adopted. The BRS agreed, following investigation of many failures in sewers, recommending that (1) the strength of pipes other than ceramic (i.e. presumably asbestoscement or pitch fibre) should be capable of sustaining the weight of backfill and surface loading. Ceramic pipes should be capable of taking 1½ times these loads, (2) the pipeline should remain watertight, so must have adequate axial flexibility and extensibility, being so supported by bedding and foundation as to avoid fracture by secondary loads and forces and (3) jointing must be resistant to physical and chemical failure from ground and waste.

Figure L in Digest 124 was referred to, being designed for drains under private roads only, while the steep rise in the curves occurring where depth of cover was less than 4ft was due to direct loading from vehicles, a loading which became dispersed into the adjoining soil at greater depths. As to flexible joints, these cannot work unless the concrete bed has joint gaps coinciding with the pipe joints. The

need to select fine and consolidating material for the initial backfill was explained in that the strength of the pipe body may be increased by as much as 80 per cent by this means, using gravels or small broken stone, possibly with sand or grit, while cover could be ballast up to \$\frac{1}{2}\$in. Screened ashes could be used but there was risk of chemical action on Portland cement pipes.

When trench digging is done by machine it is cheaper to "over-dig" a little and backfill with suitable material than to hand-trim to exact levels, also giving better bedding for pipes where concrete beds are not specified. It also avoids the risk of large stones being left in the bottom which could damage the pipe.

Another question was when factory-strengthened pipes would become available, the answer from the BRS being that adequate crushing strength for most conditions is given in a number of sizes and qualities, these being listed in Digest No. 134. BS 65 is being revised and will provide for strength ratings for pipes of various material being laid down.

That tests on drains should be made after one year resulted in the BRS explaining that contractural procedure was not a matter for a Digest but, even allowing that the Defects Liability Period would not nowadays be 12 months, failure at that time could probably be shown to be due to mortar joints being specified or the pipe having been bedded on a hard lump, or there had been careless backfilling. The effect of the full four seasons on the drain was desirable to prove its efficiency.

 Densities in Housing Areas. BRS Tropical Building Studies No. 1. Price 10s.

Buildings for the Storage of Crops in Warm Climates. BRS Tropical Building Studies No. 2. Price 4s 6d. HMSO.

Density in the tropics has a somewhat different meaning from the European one. In the tropics one may prefer to sleep out of doors, one will certainly seek shade and an arrangement of roads that induces a cooling breeze will be welcomed. Such considerations have led the author of Study No. 1, P. H. M. Stevens, ARIBA, AMTPI, to adopt bases of comparison which differ from the accepted ones, being Floor Space Rate and Housing Area Density. For quick appreciation of these two bases Mr. Stevens also uses the Housing Area Ratio, derived from the product of the two bases multiplied together divided by one acre in square feet.

The Floor Space Rate is the amount available per inhabitant, which, in a South African township is as low as 20, against a Housing Area Density of 174. In the same scheme, however, the highest Floor Space Rate is 200 sq ft which gives a Density of only 17. The overall Housing Area Ratio is 0.08. In a scheme in Malaya, the same extremes of Floor Space Rate give respectively 305 and 30 Density, the Area Ratio being 0-14. In Morocco and 35 Density, the Area Ratio being 0-14. In Morocco the comparisons give Density on the same bases of 653 and 65, the Ratio here being 0-30. Turning, inevitably, to Singapore, a Floor Space Ratio of 20 has Density of 1,329, while 200 has 133, the Ratio here being 0-61. This might well have been expected to be the highest Density but Drancy, Paris, at 20 Floor Space Rate has Density of 1,699, or at 200 of 170, the Ratio being 0.78. The top figures are in fact found at Hong Kong where, at a Rate of 20. the Density is 5,489, or at 200 is 549 when the Ratio is The key-plan of this scheme shows how crowded the site is while the photograph, confirming the crowding, shows beyond the 12-storey buildings the bare rounded hills. The instances quoted are all illustrated by plans and photographs, as are all the examples of development studied, and the author emphasizes the point that crowded development, by its environment may in fact be less oppressive than the figures and layout suggest, as in the Hong Kong case quoted where the sea borders the site on one front.

From this work it is apparent that conventional ideas of density must be eschewed when planning for the tropics, for the mode of life is as different from that of the northern European as is the climate.

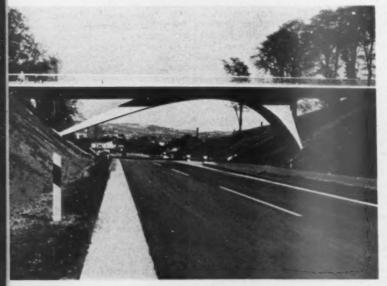
The second Study, of less general interest, has in its way just as much importance for the living standards in the tropics. The author is W. H. Ransom, who describes traditional storage methods and describes design principles and building materials. Moisture is the main enemy in encouraging bacteria, insects and mould growths. Given dry and weather-tight and, in some instances, air-tight buildings for grain storage the wastage is greatly reduced. An air-tight store inhibits insects and mould, even when these have commenced development, by the exclusion of the fresh oxygen needed to sustain life. Illustrations show some interesting designs for stores as built in West Africa, Singapore and Cyprus.

 Sand and Gravel Production 1958-1959. Ministry of Works. HMSO. Price 1s 3d, plus postage.

Last year's working made a new record in the UK of 55 million cu yd and is about 12 per cent more than during the previous year taken over the whole country, while in the south-east the increase was about 30 per cent. There were no large reductions in output, a reduction of 92 cu yd being noted in off-shore working in Wessex and about 80 cu yd in the Kidderminster district.



Above: model of the Helicoide de la Roca Tarpeya. Below: The 'Picasso' bridge outside Wuppertal



Fuel Consumption in Schools (Second Supplement). Tests
with Coal-fired Automatic Stoker Warm Air System.
Ministry of Education Building Bulletin 13. HMSO.
Price 1s, plus postage.

The First Supplement to Bulletin 13 was issued in December, 1957, the subject being fuel consumption of an oil-fired warm air system. The next test used a similar heating system using stoker-fed solid fuel but because the information derived was not wholly satisfactory further tests were made in six schools during the following 12 months. Both of these are reported in the present Supplement.

Because the school subjected to the earlier test was a new one there was no possibility of a comparison of consumption in two years but the test is fully described in Section II. including a brief description of construction. In Section III the installations in the six schools are described and the control systems adopted are given, which allowed of alternative early and late starting times for the stokers according to climatic conditions, also a period every morning when high-temperature water was produced to give rapid warming of the schools at the beginning of each day. Some complications arose from the slightly differing requirements in the schools, in that, for example, some were used, in part at least, during evenings.

The recommendations include the provision of a time switch controlling the heating of parts used in evenings. This should be an automatic switch as manual controls had not proved satisfactory. An external thermostat would allow of closing down the boilers when warmer weather occurred towards the end of the school day. Circulating pumps should be independent of the stoker switch, enabling warm water to continue to circulate after the boilers had been shut down for the day; this could take effect during the latter part of the school hours.

The conclusions include a statement that automatic controls can give considerable fuel savings, not only in Warm Air systems but also in hot water radiator systems. It has not been possible to give an indication of the financial aspects as the costs of fuels vary so much, but sufficient information is given to enable an inquirer to arrive at approximate figures according to his area.

BS 2911: Part 2: 1960. Letter Plates: Standard height and fixing recommendations. Price 3s, plus postage. British Standards Institution, British Standards House, 2 Park Street, London, W.1. Telephone: MAYfair 9000.

This is a supplement to the BS of 1957 which dealt with letter plates. It gives the height limitations within which they should be fixed and recommendations where unusual positions have to be found. It might surely have been possible to make this Part as an addendum slip to the main BS.

#### TRADE ASSOCIATION PUBLICATIONS

 Concrete Quarterly 45. The Cement and Concrete Association, 52 Grosvenor Gardens, London, S.W.1.

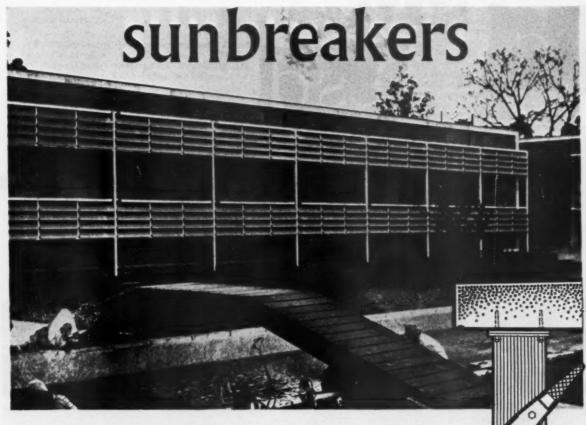
This is another admirable number largely devoted to Brazil, Venezuela and Mexico, those Meccas for the designer in concrete. Prof. Luigi Nervi is not neglected, however, but only in reference to the award of the Royal Gold Medal.

Brazil, with Brasilia, San Paulo and other centres has a number of impressive "slab" buildings but also some more intriguing shapes, including the Brasilia cathedral and the Copan building in San Paulo while the model of the Helicoide de la Roca Tarpeya in Venezuela resembles a form of ziggurat—in fact, a hillock surrounded by shops, restaurants, etc., on receding spirals.

There is also a section on recent German viaducts and bridges, marked by simplicity rather than elegance except for the "Picasso" bridge outside Wuppertal.

Home affairs are also included, there being an interesting

## HOPE'S aluminium

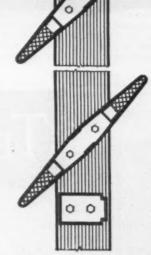


UNITED STATES EMBASSY, DJAKARTA, INDONESIA Architects: Raymond and Rado, New York.

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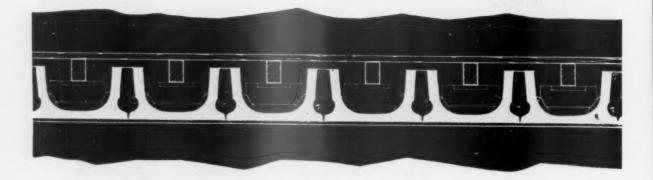


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also at Birmingham, Edgbaston 4391-2-3; Bristol 21861. Glasgow, Central 0157-8; Liverpool, Central 5281-2; Manchester, Trafford Park 2766; York 24594 section on multi-storey housing in Bristol, from 11 to 15 storeys in height, all designed by the City Architect, Albert H. Clarke, FRIBA, and the Deptuy City Architect. T. S. Singer, ARIBA. Bristol offers some exceptionally interesting sites on which these imposing blocks sit majestically.

Utilisation of Home-grown Softwood Thinnings in House Construction. Research Reports A/RR/1 and A/RR/4.
The Timber Development Association Ltd., 21 College Hill, London, E.C.4. Price 3s 6d each.

These Reports have been written by the Chief Architect to the TDA, E. Levin, ARIBA, and are based on experience first in an office building and then in a house. The studies arose from the problem faced by the Forestry Commission of finding uses for the increasing quantity of forest thinnings and it seemed possible that these could be used in the construction of the Commission's houses.

The first trial is inadequately described in the Report as to construction beyond the statement that the external wall panels were clad with different species of home-grown wood. Some of these were insulated by 1in sawdust cement in slab form, cavity and plasterboard internally. report on an experimental panel of this construction gave it a "U" value of 0.26. Comic relief is provided by the note that the users of the office demanded additional heating for comfort which was then found to be 75 deg F!

The facings used were Scots Pine, Corsican Pine, Japanese Larch, Douglas Fir and Sitka Spruce. The first, used on the east elevation, cupped badly, not being restrained by tongued and grooved joints and having no insulation behind. Corsican Pine and Japanese Larch behaved and looked well, having small knots only.

In the second test, a panel system was adopted of 3ft x 4ft factory made, with vertical matching, 3in x 1in in Scots Pine, Sitka Spruce and Japanese Larch, while the framing and carcassing were in Scots Pine. One of the objects of the exercise was to use material of short lengths. Insulation in this case was the cavity of the framing and aluminium foil-backed internal plasterboard applied on site.

The report is inconclusive. The builders failed to work

to specification, sizes were wrong, the roof tiling spread the walls because they were not properly tied and much delay ensued. Much more information might have been given. It seems the timber was converted in "a practically green state", transported for kiln-drying, impregnation and drying. The Scots Pine facing was not impregnated or, one hopes, not kiln-dried? Structural members came in over-size, excessive allowance for shrinkage in kilning having been made. Joinery was of imported timber.

The appearance of the house as seen in the photograph is passable but the differences in colour of the three kinds of facing woods had to be toned down with stain. One doubt expressed is the durability of the facings where end grain is subject to rain, there being no weathering at tops of the boards. Flooring on both floors is Scots Pine 5in x 1in and 4in x 1in impregnated, the ground floor having no ventilation under. The panels have become distorted. possibly from drying the members which subsequently became wet. The "U" value is not stated in this Report but the BRS have estimated this at 0-23. It may be noted that no lining paper was fixed behind the matching so any splitting must affect the "U" value.

The Iron and Steel Board: What it is and What it does. Iron and Steel Board, Norfolk House, St. James's Square, London, S.W.1.

An explanation of the functions of this body is helpful. Derived from the nationalization of the iron and steel trade. it now functions as an advisory body both to industry and the government. Members of the Board are appointed by the government and its periodical reports are submitted to parliament, but the Board is not a government depart-ment. Three members are from the trade union movement, three from steel-consuming industries, two are steelmakers, one an ironfounder and one is experienced in research and development work. Of these, two members are full-time

and may not have any substantial financial interest in the trades.

The Board tries to forecast the market position, so that production may be stepped up or kept on an even plane to suit conditions in up to five years ahead. The type of product, too, is important and the Board's recommendations for new strip mills are responsible for those now to be built with Treasury assistance. Industrialists put proposals for development to the Board which, with an overall picture of the country's needs, may advise for or against or, in some cases, favourably but in another locality. Prices, too, are controlled by the Board. The method seems harsh yet works: the certified costs of production of well-managed economic units are used as the yardstick, compelling the less efficient to reorganize to become com-The tendency now, however, is to arrive theoretically at production costs of a model unit and fix the cost of the product by these, thus always harrying even the best producers to find more economic processes.

No price is stated for this publication.

Solid Fuel the Modern Way. National Coal Board, Hobart House, Grosvenor Place, London, S.W.1. Telephone:

The Coal Board is pursuing its new policy of advertising the merits of coal by bombarding various classes of customer. This booklet is aimed at Local Authorities, in connection with schools, baths, houses, flats, laundries, bus depots, etc. The main claim for preference lies in the cost of heat from coal being lower than any competitive fuel, oil being specified as the main enemy. There is very little of technical interest in the publication, its factual statements being well known and generally accepted, including the one that bituminous coal properly fed is acceptable under the Clean Air Act. Small appliances are also referred to, suitable for dwellings.

Annual Report 1959. The British Coal Utilisation Research Association, Randalls Road, Leatherhead, Surrey. Price 10s.

Research in the use of coal is following some very interesting lines. Better combustion, better heat distribution within furnaces, lower grit and sulphur emission, improved coal grinding for pulverization, complete gasification of low-grade coal, improved stokers and chain grates, improved bunkering—these are some of the works in progress during the past year. Domestic appliances are included, as to smoke emission and sulphur release. research seems to be applied to dust-free ash removal which is one of the major hurdles to be overcome, particularly

Forester's house at Joydens Wood. See Utilisation of Homegrown Softwood Thinnings in House Construction



in domestic use, although the publication reviewed above states that boiler houses can be "clean and bright"—and dust-free?

 Tanking with Mastic Asphalte. The Natural Asphalte Mine-Owners' and Manufacturers' Council, 14 Howick Place, Victoria Street, London, S.W.1. Telephone: VICtoria 1600.

The Foreword says: "When water has penetrated the interior of a building that has been 'tanked' with asphalte, it has invariably been due to (a) non-observance by the main contractor of the precautions necessary to protect the asphalte; (b) the use of sub-standard quality asphalte; (c) inexperienced asphalters; or (d) extraneous circumstances, such as oil percolating through walls and affecting the

asphalte".

Vertical tanking may be external or internal, the former where working space is available and must allow for the 6in width lap of vertical with horizontal asphalte. Where internal tanking is adopted it must be supported by an inner wall of 6in concrete or 9in brickwork capable of sustaining hydrostatic pressure. Alternatively, the non-structural wall may be external, backing up the asphalte with the structural wall. It is of the utmost importance that the joint between the supporting wall, if of brick, and the asphalte shall be

grouted with mortar.

Horizontal asphalte cannot always be applied successfully to blinding concrete so should be on a sufficiently strong raft. A "loading" coat of concrete should be added as soon as possible. Pumping of subsoil water to keep the level below that of the asphalte must be ensured continuously and the tanking must be taken into stanchion pits, so as to give complete, unbroken enclosure to the basement. There is no reference to a method of sealing a well-point suction pipe through a tanked floor, which is necessary on sites enclosed by other buildings.

#### TRADE PUBLICATIONS

 Quiet please: Acoustics and Noise Reduction. Bowaters Sales Company Ltd., Bowater House, Knightsbridge, London, S.W.1. Telephone: KNIghtsbridge 7070.

Any device which may bring about a clearer understanding of noise reduction is welcome. Bowaters, in this publication, have avoided treating the subject as one of weighty scientific complexity by a light-hearted treatment with all stages approached by small steps. Mathematical solutions alone may not convince anyone of the efficacy of a proposed solution: guinea pigs are much more reliable. The "guinea pigs" in this case were three groups of naval ratings who were given simple problems in mental arithmetic to do, in differing conditions of noise or silence. This test was carried out by the British Medical Council with the cooperation of the Royal Navy. One significant point appearing is that the disturbing effect of noise continues long after the noise has stopped.

This report serves merely as an introduction to the subject of acoustics. In Table 1 are given typical sound frequencies from electrical equipment at 50 c/s through vocal and instrumental sound to the high-frequency whistle from television sets at 10,125 c/s. Table 2 gives the familiar sound pressure levels from the painful level of about 135 db down to extreme quietness at under 10 db. The significance

of these tables is briefly explained.

Sound in buildings, as reverberation and absorption, is then considered aided by symbolic diagrams, followed by the usual absorption coefficients in various materials at c/s ranging from 125 to 4,000 in Table 3a. The variability of absorbents is indicated by "Sabins" in Table 3b, in which seated occupants of a hall may, at 250 c/s, have value between 2 and 5, while at 2,000 c/s, may have value from 3 to 6. In Table 4 are given the normal sound-reduction factors of structural materials at 125 c/s to 4,000 c/s.

The next section deals with Simple Calculations in Noise

Reduction and Sound Control, all clearly written and split up into the steps in turn. Fig. 1 gives graphs for the subtraction and addition of absorbents needed to compensate for residual noise over a noise threshhold or background.

A glossary of acoustic terms follows.

The second part is devoted to the use of Bowater materials to satisfy acoustic problems. These include Bowater suspended ceilings in Standard T/A Panels having perforated hardboard faces backed by mineral woolcovered on top with kraft paper and the Slotted T/A Panels, of similar construction except for having rectangular perforations \{\frac{1}{2}\text{in} x \text{ lin} \text{ instead of circular holes.} Both panels have softwood frames. There is also the Metal T/A Panel, having expanded metal as a tray containing lin mineral wool.

There follow brief descriptions illustrated by photographs of contracts fulfilled using these systems, but no figures are quoted to support the opinions quoted of reduced disturbance.

Fixing diagrams complete the book, which should be well received by those troubled by acoustic absorption problems although no help is given in dealing with the transmission of impact noise.

 Daylight with Insulation. Thomas A. Markus, MA, MArch (MIT), ARIBA. Pilkington Bros. Ltd., St. Helens, Lancashire.

Our temperate climate results in our being backward in many facets of building science, such as concreting during frost, frost-proofing plumbing and, as we as a nation become physically softer and less resistant to cold, insulation of structures. The cost of fuel more than anything else, however, has probably spurred on the demand for insulated glazing so it is to other countries we must look for experience as for technique.

Mr. Markus has written a very comprehensive book which Pilkington Bros., with the collaboration of F. C. Pritchard, Wood & Partners, have published in an excellent,

acceptable edition to A4 size.

Insulation is mainly against external temperature difference, but it is also sometimes necessary in internal screens, such as the window at Harwell to watch remote manual control of nuclear apparatus. Sealed cavities between glass sheets are one solution, relying on dried air or dessicants to absorb an excess of moisture, double-glazed frames with still air between are another while a third is two glazed frames permitting slight flow of air up the cavity.

Another aspect of insulation is that of sound penetration. Single glazing presents little resistance, double glazing with normal thickness of glass has little value until the cavity is 2in wide, the least for noticeable effect being 4in.

Excessive solar heat gain is at its worst in this country through roof glazing, but sidewall glazing may admit too much at some seasons. Mr. Markus shows an arrangement for the former case of ventilated double glazing and for the latter—suitable probably only for sub-tropical conditions—of a bracketted screen of heat-absorbing glass shading the windows from the sun at its steepest angles.

Light penetration in cities is poor because of steep angles of light and low storey heights, imposed through high land and building costs. Improvement can be given by using prismatic glass. Brightness may be objectionable and be moderated by using a diffusing glass. The two types of glass may be used together in one panel, or supplemented by a diffusing screen of glass fibre.

Every conceivable question on the application of glass seems to have been foreseen in this book other than manufacturing matters and maximum glass and glazing sizes. As Insulation is the focus of the book a section on the

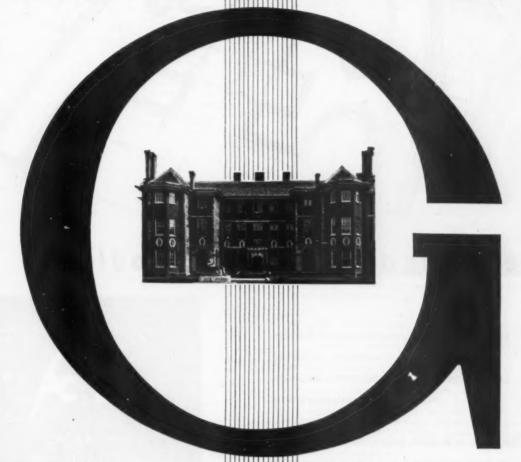
economics of the case is included.

The book is obtainable free from Pilkington Bros. and should be of great assistance in the selection of types of glazing insulation and drafting detailing. An index would have been useful for the chapter headings do not indicate the scope of each. A useful bibliography is given and acknowledgment is made to the many at home and abroad who have contributed information.

L

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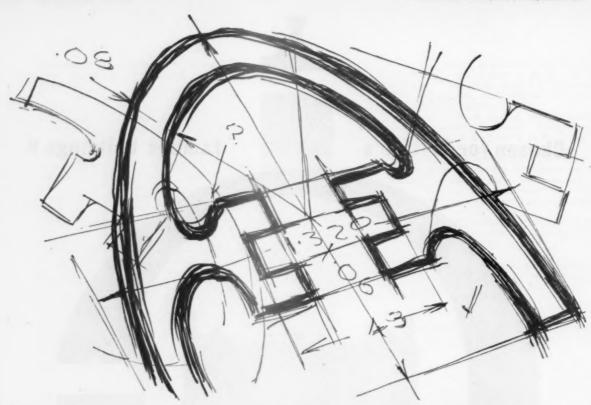
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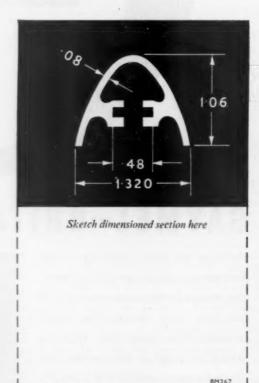
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## Birmetals



 The Franki Systems of Piling. Frankipile Ltd., 39 Victoria Street, London, S.W.1. Telephone: ABBey 6006.

"The Right Tool for the Job"—a sub-heading—is exemplified by the illustrations of the elaborate plant now in use in piling. The most interesting is probably the variable "Turn Grab" used on large diameter bored piles. This has three vertical scoops spaced apart, capable of clearing to 4ft dia of the steel lining casings. The grab can bore down to 100ft and, by altering the angles of the scoops, form an enlarged or bulbous base to the pipe. This equipment is 87ft high, 40ft long and 14ft wide. Its weight is 65ton, exerting a ground pressure of 14cwt only per sq ft.

Also of interest is piling for underpinning of existing

Also of interest is piling for underpinning of existing foundations. The piles are forced down by hydraulic jacks bearing on the underside of the building foundation, using first a pointed steel casing section for easy penetration of the ground. Pressure gauges on the hydraulic line indicate when the pile is able to take the calculated load.

All methods of piling are described, including augered piles, and illustrated by diagrams and photographs. Foundation design and construction work is also undertaken, some of the contracts being illustrated.

#### CATALOGUES

- Sliding Door Gear. Coburn Engineers Ltd., Coburn Works, Peasmarsh, Guildford, Surrey, have completely revised their catalogue with clear illustrations and tables for door gear and accessories.
- Overhead Runways. Coburn Engineers, address as above, have also issued a supplement to Section 6 of the main catalogue noticed above which shows typical applications in industrial use. Details of light runways and various fixings are included.
- Tile-Cutting Machine. Redland Tiles Ltd., Castle Gate, Castlefield Road, Reigate, Surrey, have issued a leaflet on this new machine for cutting roofing tiles on site.
- Industrial Space Heaters. Thermatic Heating Co. Ltd., Carlton Road, South Croydon, Surrey, have issued details of their Thermatic oil-fired space heaters. These are free-standing with flue to roof from the heat exchanger. Outputs range from 85,000 to 550,000 B.Th.U. and service arrangements are provided at five centres in the UK.
- Mosaics. Proctor & Lavender Ltd., Solihull, Warwickshire, have the sole agencies for Pandel Ceramic Mosaic and Kosta Glass Mosaic. The former are in both glazed and unglazed finishes in 36 colours. The latter are in 60 colours and fittings for coves and bullnoses are available. The illustrations are in colour.
- Marble. Proctor & Lavender, address as above, also have an agency for Swedish marble, which is illustrated in colour in a booklet showing 16 kinds, mainly greenish, but some variety in colour is included.
- Rufflette. Thomas French & Sons Ltd., Chester Road, Manchester 15, have issued a Home Trade Catalogue describing and illustrating tapes and accessories, suspension devices, track, venetian blind material and their range of freight nets, electric blankets, heating tapes and miscellaneous products.
- Softwoods, Hardwoods, Doors, Mouldings. C. F. Anderson & Son Ltd., Harris Wharf, Graham Street, London, N.1, have issued a Price List dated July, 1960, of planed and sawn imported softwoods, hardwoods, panelled and flush doors, mouldings and partitions.
- Festoon Lighting. D. R. Illuminations Ltd., Warren Street, Stockport, Cheshire, have issued a new catalogue of their fully insulated ready-wired systems, including weatherproof bulb holders, connectors and accessories suitable for site use.



'Turn Grab' machine showing hydraulic power unit, jacking frame and guides for tube alignment

- UAM. The Universal Asbestos Manufacturing Company Ltd. (The UAM Group), Tolpits, Watford, Herts, have issued the complete series of Data Sheets in binder.
- Photo Murals. The Autotype Company Ltd., Brownlow Road, West Ealing, London, W.13, have produced a leaflet on their service which includes a library of copyright photographs and negatives of landscapes, snow scenes, engravings, etc., of home and foreign origin suitable for public rooms. Customers' negatives can also be used. While monochrome is normal, hand-coloured prints can be supplied. Sizes up to 15ft x 7ft 6in are available costing roughly 4s 6d per sq ft.

Photomural mounted by Heals Contracts for USAAF

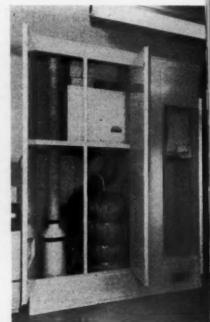


- The tenth Electrical Engineers ASEE Exhibition will open at Earls Court on March 21, 1961, for five days. Provisional space bookings have increased and more than 460 electrical manufacturers will show their latest products.
- Matthews & Yates Ltd., fan engineers of Swinton, Manchester, and Turner & Brown Ltd., chemical plant engineers of Bolton, have jointly agreed to manufacture, under the trade name of Turbroc Cyclone, a wide range of plastic chemical plant and equipment in addition to their present range of P.V.C. fans.
- A one week residential course on Export Management, primarily intended for managing directors, export directors and export sales managers and senior executives, is to be held at Sundridge Park Management Training Centre from November 27 to December 2, 1960. The principles and techniques to be discussed will be applicable to both large and small organizations handling products ranging from capital equipment to consumer goods. The inclusive residential fee is £60 and further information can be obtained from the Principal, Management Training Centre, Sundridge Park, Bromley, Kent.
- Jablo Plastics Industries (Malta) Ltd. is a new company formed by Jablo Plastics Industries Ltd. and the Maltese section of Messrs. C. H. Bailey. The company will manufacture under licence the various Jablo products, mainly the expanded plastic type, and will have a capital of £50,000. The board of the new company consists of Lord Selsdon, D.S.C., Mr. B. Jablonsky, Mr. C. H. Bailey and Mr. C. F. Pace.
- British Insulated Callender's Cables
   Ltd. have moved their Reading branch to
   a new address at Katesgrove Lane,
   Reading (telephone: Reading 55074).
- Henry Boot & Sons (Plant) Ltd., of Dronfield, Sheffield, have been appointed main stocking dealers for the John Deere Lanz industrial equipment which includes crawler, loader, backhoe and many other attachments.
- The reinforced concrete ceiling of the Thames-side restaurant of the Mermaid Theatre has been covered with Bowater Metal Thermal/Acoustic panels. This work was carried out by D. and A. McKnights Ltd., of St. Albans.
- The Rt. Hon. Ernest Marples, M.P., Minister of Transport, has appointed Mr. J. R. Madge as his Principal Private Secretary in succession to Mr. J. Garlick.
- Walker, Crosweller & Co. Ltd. have opened a new office block in the town. This houses their sales and service departments, which retain the old telephone number (Cheltenham 56317) and address. Departments at the factory (accounts, works offices, buying and publicity) have a new number: Cheltenham 56366.

- Due to trade mark registration difficulty, the Benjamin Electric Ltd., of Tottenham, London, N.17, have changed the name of their new range of fluorescent fittings from "Flo-line" to "Skyline".
- We regret to record the death on August 22 of Mr. J. D. Millner who was manager in the Irish Republic for Ferodo Ltd. Mr. Millner was 53 years of age.
- Aerofilms Ltd. and Aero Pictorial Ltd. have amaigamated and the company is now known as Aerofilms and Aero Pictorial Ltd. The head office is at 6 Elstree Way, Boreham Wood, Herts (telephone: Elstree 2214) and the library at 4 Albermarle Street, London, W.1 (telephone: Hyde Park 5211).
- Pyrotenax Ltd. have opened a new sales office at Nottingham. Address: 69 Loughborough Road, West Bridgford, Nottingham (telephone: 83805). Mr. J. Wallen, already well-known in the area, is in charge of the new office.
- The Minister of Transport has awarded to Sir John Jackson Ltd., of London, a £758,755 contract for the construction of the southern approach road to the Dartford-Purfleet tunnel.
- The 19th-century railway station of Burnt Mill, Essex, has been completely rebuilt and renamed Harlow Town and it is interesting to note that Pyrolith flameproof treated timber has been extensively used.
- A two-colour Isora illuminating ceiling (see New Products 4/3/59) has been installed in the restaurant of the Alconbury Motel at Huntingdon. The cost of installing the ceiling, of just over 1,000 sq ft, was a little over 6s per sq ft.
- Representatives from most industries will be attending the First Effluent and Water Treatment Exhibition and Convention to be held from October 18 to 21 at the Seymour Hall, London. Papers to be read at the Convention will cover different methods of controlling and treating different trade wastes and will also deal with river pollution, coastal pollution, pumping, plant design, water softening and marine water treatment.
- Miss Jean R. Roberts has been appointed advertising manager of Semtex Ltd. The former advertising manager, Mr. W. D. Knowles, has been promoted to the company's central advertising department and is now based in Berners Street. Mr. Knowles will continue to be responsible for the advertising activities of Lastex Yarn and Lactron Thread Ltd., the senior supervision of Belting, G.R.G., Hose and Semtex advertising and will undertake other individual assignments.

#### CORRECTION

On page 842 of our issue of 29/6/60, the name of the county architect (Lanarkshire) should be Mr. D. G. Bannerman and not Mr. A. J. Smith.



Warmafoam polystyrene ducting, made by Wola Products Ltd., is used to carry warm air from this Radiation Ductair 22 central heating unit in a Hallmark Homes bungalow at Goring-by-Sea, Sussex

Over 20,000 sq ft of Latexfalt jointless flooring was laid in this new grocery warehouse, built by Portsmouth Gosport and District Builders Guild Ltd. for H. Reeves & Co. Ltd. This flooring, supplied by Amey's Asphalt Co. Ltd., is claimed to be non-slip, noiseless, moisture proof and dustless





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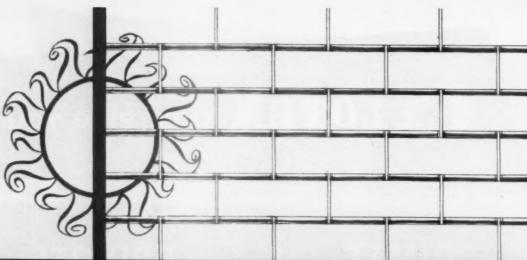
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Rely-a-Bell Burglar & Fire Alarm Co. Ltd. - The Security Centre, 54 Wilson Street, London, E.C.2 Telephone: BIShopsgate 4321 (10 lines)

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West Midland Regional Agent: H. F. Cook, 12 Birmingham Road, Oldbury, Worcestershire. Telephone: Broadwell 1273

In this feature are reviewed new lines introduced to the building industry for the first time and additions or improvements to existing ones. Any advantages claimed for a product are from information supplied by the manufacturer

#### New Light Fittings (A)

A new range of American designed table lamps and floor standards has been added to Falk's catalogue of modern lighting fittings. There are three units in the new range, these being No. L3777 floor standard and Nos. L3776 and L3775 table lamps. No. L3777 has a white base and a walnut stand with a one-piece white opal plastic shade. It is intended for a 100W lamp, the light from which is reflected by a metal top cover through the walls of the shade to give an even, glare-free light. No. L3776 table lamp has a switched white base with polished brass stand. The shade is finished in matt black on the outside and together with a white plastic shade diffuser, gives even, glare-free light. It can be rotated through almost 360 degrees. The other new fitting, the L3775 table lamp, has a white opal plastic cut-off shade to take a 60W lamp and is mounted on a polished brass stem, part encased in walnut, standing in an off-white base, which contains a switch. The angle of cut-off of the shade ensures a good spread of glarefree light and the use of a swivel joint enables the beam to be directed to almost any position. Prices (including P. Tax): L3777, £13 9s 6d; L3776, £9 3s 9d; L3775, £6 18s.

Falk, Stadelmann & Co. Ltd., 91 Farringdon Road, London, E.C.1. Holborn 7654. Readers' Information Service Ref. A. 14/9/60,

#### New Bonding Agent

Cement Weld is a new bonding agent which has been formulated with the object of eliminating the necessity to hack, rake out joints or provide any other key to the surface to be rendered. It is claimed that any clean sound surfaces, such as smooth concrete, fairfaced brickwork, glazed brickwork, glazed tiles or painted brickwork can be bonded successfully with Cement Weld. Surfaces treated with distemper, emulsion or limewash must be cleaned and all trace of the coatings removed. Cement Weld can be applied with brush, spray or roller and should be left to dry for a minimum of four hours. Another use for the new product is in Portland Cement mixtures for improving bond strength, dispersion and plasticity. When used in such a manner, the resultant concrete will, it is claimed, have a much better resistance to cracking, abrasion and the action of corrosive chemicals. It can also be used for bonding new concrete

to cured concrete and in this case two coats of Cement Weld, applied to the surface of the cleaned concrete, form a secure bond for the screed. Cement Weld is supplied in Igal cans.

J. Manger & Son Ltd., 57 High Street, Kingsland, London, E.8. Clissold 5307. Readers' Information Service Ref. B. 14/9/60.

#### **New Paving Material**

Alta Quartzite is a hard decorative riven natural stone, pale green in colour which is quarried in Northern Norway. It is now being imported by this company for use as a paving material and for non-slip and nondusting floor surfaces. It needs no maintenance beyond washing and is claimed to be both unaffected by chemicals and impervious to oil. In addition, it is stated to be resistant to abrasion and to be capable of conducting heat, a factor which makes it suitable for use with floor-warming systems. It is made in standard tiles of up to 2ft square, in thicknesses of in and in. Tiles can be supplied up to fin thick and stair treads and riser lengths up to about 5ft by 1ft wide by Hin thick, are also available. To simplify order in laying, the company has devised a standard random unit of 1\(\frac{1}{2}\) sq yd, made up of 22 pieces based on a 4in module. This is laid to interlock with adjacent units and if a symmetrical pattern is required, any given tile in each unit may be replaced with one in a contrasting material. Borders may be in Alta Quartzite or in marble. Approximate price: 43s per vd. cut to size.

Altazite Ltd., Palace Wharf, Rainville Road, Hammersmith, London, W.6. Fulham 6142. Readers' Information Service Ref. C. 14/9/60.

#### Solid Fuel Boiler

A new automatic gravity feed boiler has been added to the Watts range. The boiler, No. 700 A/C, has a rating of 700,000 B.Th.U/hr and is stated to be suitable for use in industrial buildings, offices, shops, hotels, churches, schools and glasshouses. It will operate either on small anthracite or graded coke and twin hoppers are fitted which accommodate 9½cwt of anthracite or 6cwt of coke. The hoppers only need to be topped up once a day and they automatically feed twin fire boxes, each with its own water-cooled burner





Three new lamps by Falks. Top: L3777 floor standard. Centre: L3776 table lamp. Below: L3775 table lamp (A)



unit and forced draught motor fan with thermostatic control. Thus the boiler can be operated at half output if required. The hoppers are slightly pressurized to prevent fumes from rising and are treated with Metalife to eliminate abrasion by the fuel. Water capacity is approximately 127gal and all water ways are made from in steel boiler plate, hydraulically tested to 60lb/sq in and joined by prefabricated connectors. Finish: hammered grey. Price: £725 (including flue draught stabilizer, declinkering tools and a thermostat).

Watts Metal Industries Ltd., High Street, Lydney, Glos. Lydney 392. Readers' Information Service Ref. D. 14/9/60.

#### New Centrifugal Pump (E)

The Alcon range of self-priming centrifugal pumps has now been supplemented by the addition of the new Alcon Thames range of single-phase centrifugal pumps. The Thames pumps are available in sizes from 1in to 5in and are suitable for a wide variety of purposes including civil engineering, agriculture, industry, irrigation and domestic use. In performance the new range conforms to BSS 2613/1957 and draft specification A(ELE)978. The pump casing is closegrained cast iron with either horizontal or vertical discharge as required. Impellers are of gun metal with passages through the hub to relieve stuffing box pressure and give hydraulic balance. Impeller rings are renewable gun metal and the sleeve renewable bronze extending through the stuffing box protecting shaft. The motors are of the totally enclosed fancooled type, with carcase and end shield in close-grained cast iron. The frame is fitted with feet and the stator is a 3-phase 50-cycle induction type, Class E insulation. The rotors are dynamically balanced squirrel cage type and the bearings are greaselubricated grooved balls. Alternative prime movers are either petrol or diesel engines and the range can be offered for belt drives. Performance details of the new Thames range are covered by makers' leaflet No. 152. Arthur Lyon & Co. (Engineers) Ltd., 6 Carlos Place, Grosvenor Square,

#### Fan-assisted Convector (F)

Ref. E. 14/9/60.

London, W.1. Hyde Park 9141.

Readers' Information Service

The Miniature Forceflo is a fanassisted convector designed to satisfy the heating requirements of moderately sized areas. It is suitable for both domestic and industrial applications and is made in three sizes and in six styles. The basic free-standing and

recessed types are for general use, while the free-standing sloping top, free-standing extended, recessed extended and ceiling models are for more particular applications. In all cases, connections are concealed within the cabinet and two-speed motors, wired to a three-position switch, are used. The motors are of the shaded-pole type with propeller fans directly mounted on the spindles. The fans are statically and dynamically balanced and the motor sleeve bearings have a sealed-in oil reservoir. The assembly is resiliently mounted to ensure quiet operation. The cabinets are of high-grade steel sheet suitably stiffened for rigidity with a removable panel providing access to fan motor and fan-plate assembly. "V" type grilles are generally employed for both intake and discharge apertures, but in the case of the free-standing model (illustration), an expanded metal screen is housed within the cabinet. Heat and sound insulation can be fitted to the cabinet, as can a mesh type filter. The units may be wired for thermostatic on/off and motor speed control. The Miniature can be attached to fresh air intakes and damper control is provided when this is required. Overall dimensions: all models are 30in high by 9kin deep; all models—one fan—21in with 16in grille, two fans-33in with 28in grille, three fans-43in with 38in grille. Electrical supply: 200/250V, single phase, 50 cycle.

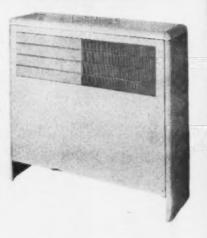
F. H. Biddle Ltd., 16 Upper Grosvenor Street London, W.1. Hyde Park 0532. Readers' Information Service Ref. F. 14/9/60.

#### Solid Fuel Boiler (G)

Another addition to the Sofono range of solid fuel domestic heating appliances is the Sofono Boiler No. This is a small manually controlled boiler designed to B.S. 758: 1955 and rated with a maximum output of 22,000 B.Th.U/hr. It has a boiler heating surface of 2 sq ft and will supply domestic hot water through a 25 to 30gal storage cylinder and, in addition, serve a towel rail or radiator of up to 10 sq ft surface area. The boiler is fitted with a built-in hopper and has a lift off refuelling lid. There is a spin wheel on the ash-pit door for manual combustion control. The cast iron bottom grate has a rotary deashing movement and can be dropped into the ashpan for dumping. Shaking and dumping controls are reached through a full-width hinged outer door. Finish: stove enamelled white, cream and blue with black vitreous enamelled hob and black lower front panel. Overall dimensions: 22\fin high by 15in wide and 15\fin deep. Price £20 19s. Sofono Division, Grange-Camelon Iron Co. Ltd., Falkirk, Scotland.

Readers' Information Service Ref. G. 14/9/60.





Top: One of the Alcon Thames range single-phase centrifugal pumps (E)

Centre: The Miniature Forceflo fan-assisted convector (F)

Below: The Sofono solid fuel domestic heating Boiler No. 1 (G)



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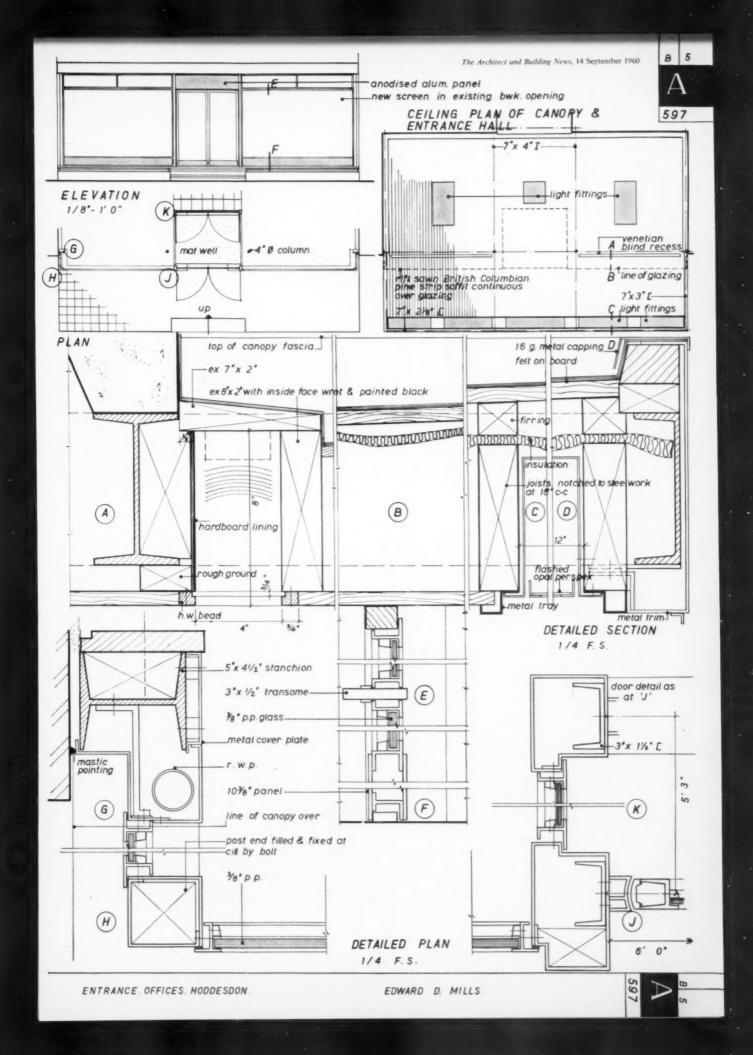
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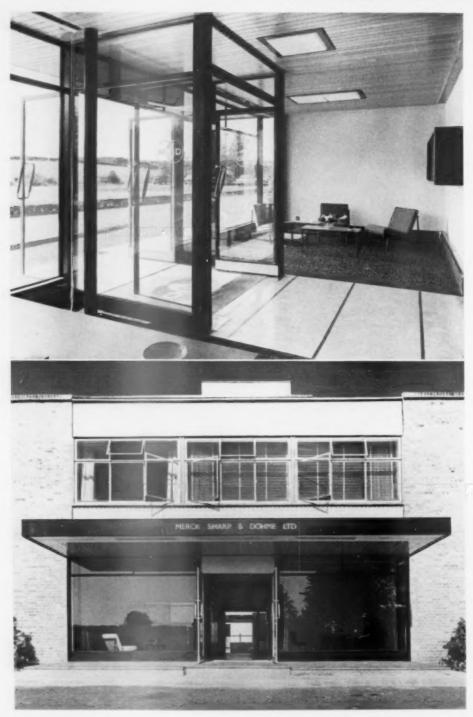
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This new entrance to the existing office block for Merck, Sharp & Dohme at Hoddesdon, was built during the construction of the new factory. The fascia is pressed metal with letters in anodised aluminium which is also used for the panel above the door. The opening lights above are painted white in a timber subframe, and profile concrete blocks are used for the spandrel panel. The canopy and ceiling to the entrance hall are lined in T & G boarding of Western Red Cedar, V-jointed. The tiles are blue brindle paviors externally and grey thermoplastic with black dividing strips internally. The carpet is moss green and black and the chairs are upholstered in orange; African mahagany is used for the illuminated showcase and the Company's symbol is sand blasted onto the glass doors. Architects: Edward D. Mills & Partners

#### AND NOW

sofono Domestic Boilers in a **NEW** wide range

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Small, compact, manually controlled. Rated on a two hourly refuelling interval gives an output of 22,000 B.t.u. per hour, its continuous output rating is 12,000 B.t.u. per hour. Ideal for the smaller kitchen. In White, Cream or Blue with Black hob and lower door panel.

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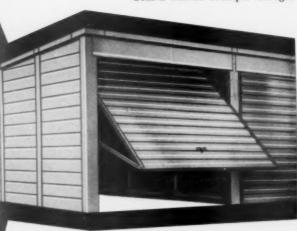
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WORK IN PROSPECT

Athlone, Eire. Erection and completion

of boys' school. Applications to: A. E. Smith & Co., Quantity Surveyors, 4

Birkenhead Corporation. The planning committee has approved a planning pro-posal for (a) three blocks of 14-storey

posal for (a) three blocks of 14-storey flats, 26 garages and three electricity sub-stations in New Hey Road; (b) two blocks of three-storey flats and seven lock-up garages in Apple Grove/Well

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City of London Corporation. The rates committee has approved drawings for the erection of (a) multi-storey office build-ing at Holborn Viaduct; (b) offices with restaurant or shops at pedestrian level and incorporating licensed premises and post office in Carter Lane/Knightrider Street; (c) livery hall for the Worshipful Company of Salters with ancillary offices in Fore Street/Aldermanbury Postern/London Wall; (d) office block, public bases and prochainal access with a London Wall; (d) office block, public house and mechanical garage with a petrol service station in Upper Thames Street/Queen Street Place; (e) 12- and eight-storey office blocks in Seacoal Lane; (f) eight-storey block in Ludgate Hill and six-storey block next to Old Bailey for use as shops with offices over; (g) building comprising Court Room, Livery Hall with offices on the third floor in Little Trinity Lane: (h) office floor in Little Trinity Lane; (h) office building for international headquarters building for international headquarters of the Salvation Army in Victoria Street/Lambeth Hill; (i) ancillary office building for use in connection with the printing works of The Times Publishing Co. Ltd. in Queen Victoria Street/St. Andrew's Hill/Ireland Yard/Playhouse Yard/Blackfriars Lane; (j) building for use as offices, showrooms, stockrooms, dental surgery, shops on ground floor and licensed premises and basement car park in Fore Street; (k) block of offices at 'Temple House'.

Coventry C.C. has approved a scheme for central baths in Cope Street, total esti-mated cost £894,015. The scheme is due

> completed by April, 1964. Norton Hill Estates Ltd. are to build a three-storey block of 96 two-bedroom flats and 44 garages for letting on the Norton Hill estate, Walsgrave Road.

to commence in September, 1961, and be

The estates and parliamentary committee has approved plans submitted by E. Laxon & Co., for a grocery and provision warehouse with ancillary accommodation in Charter Avenue.

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HOTCHKISS ENGINEERS LIMITED EASTBOURNE . Tel. 2424, 7 lines The housing committee has approved a revised layout for 10-storey continuity block of dwellings.

The planning and redevelopment committee has approved details for the construction of the new Coventry railway station for the British Transport Commission.

Dunstable Town Council. Erection of assembly hall to seat 720 people at the civic centre, cost £170,000.

Manchester C.C. The baths and laundries committee has approved proposals for the modernization of the Whitworth Baths, total estimated cost £23,310.

The welfare services committee has approved plans and estimates for a home for old people in Goddier Street.

Northern Ireland Housing Trust. Proposed construction of 299 dwellings and 96 garages together with ancillary and engineering works at Dunmurry (Conway). Apply: Offices of the Trust, 12 Hope Street, Belfast.

Waterford, Eire. Erection of a factory for Munster Chipboard Co., at Tycore, estimated cost £350,000.

#### SUBMISSIONS FOR PLANNING AND BYE-LAW APPROVAL

Accrington Corporation. Plans submitted for (1) erection of shopfront in Abbey Street for Accrington & Church Industrial Co-operative Society Ltd.; (2) outline application to demolish and rebuild 5 Union Street for Barclays Bank Ltd.; (3) provision of toilets and alterations at St. John's infant school, Maudsley Street for the school managers.

Birkenhead Corporation. Plans submitted for (1) erection of (a) three-storey block of 24 flats and 19 garages in Tollemache Road/Forest Road, submitted by Jas. Rimmer & Sons for Victoria Estates Ltd.; (b) single-storey building in Wharf Road for S. L. Owens & Son (Wallasey) Ltd.; (c) single-storey block for the storage of cloth in Star Street for Stylewear Manufacturing Co. (Birkenhead) Ltd., submitted by Messrs. A. Stanley Barnes & Dallow; (d) seven detached houses and garages in Rathmore Road, Oxton, for Herbert H. Davies; (2) installation of lift and shaft at 14 Catherine Street for Birkenhead and District Co-operative Society Ltd.

Bournemouth Corporation. Plans submitted for (1) erection of (a) four-storey block of 24 semi-contained flats with 14 garages in Noll. Chine Crescent Road for Park Investments Ltd.; (b) light industrial building in Haviland Road for Durley Properties Ltd.; (c) four-storey block of 32 semi-contained flats with

garage accommodation under in Madeira Road for The Property & Share Consolidated Ltd.; (d) four-storey block of 16 semi-contained flats and 14 garages in St. Winifred's Road for City Reconstruction Ltd.; (e) two blocks of six semi-contained flats each with 10 garages in Surrey Road for Drewsons Ltd.; (f) factory offices and semi-contained flat in Wallisdown Road for Cummings & Morrish Ltd.; (g) five-storey block of 41 semi-contained flats with garage accommodation for 41 cars for Deerdale Properties Ltd.; (h) two shops with four semi-contained flats over and four garages for Mr. J. A. V. Wraighte both in Wimborne Road; (2) alterations and installation of lift, two w.c.'s and two basins at Somerset House Hotel, Bath Road for Mr. N. C. Astbury.

Burnley Corporation. Plans submitted for (1) erection of (a) telephone exchange in Brown Street; (b) despatch room at Rembloy Factory, Accrington Road, for Remploy Ltd.; (c) baptist church and school in Church Street for Trustees of Scion Baptist Church; (d) retail shops, offices, social club, snack bar and licensed premises in Parker Lane/Red Lion Street/Croft Street/Boot Street for Burnley Investments Ltd.; (2) extensions to form (a) drawing office at Norcastle Works, Irene Street, for Northern Diecasting Co. Ltd.; (3) outline application for bridge over the River Calder, off Plumbe Street, for Samuel Smith & Sons (Colne) Ltd.

City of London Corporation. Plans submitted for (1) erection of shopfronts at 64 and 112/114 Cannon Street; (2) extension to (a) lift at 30 Bouverie Street; (b) basement, ground and first floors at 1-7 Northumberland Alley; (3) demolition of fifth floor and erection of new fifth and sixth floors for use as offices at 4 Crosby Square; (5) erection of (a) seven-storey office building to an extension to the Atlas Assurance Company offices in King Street and Ironmonger Lane.

Dewsbury Corporation. Plans submitted for (1) erection of (a) seven-storey shop and office block in Wakefield Road for M. Harrison & Co. (Leeds) Ltd.; (b) switch gear house at Howroyd Colliery, Whitley, for National Coal Board; (2) replacement of (a) five pairs of semi-detached houses with two blocks of six houses in St. Michael's Close for Johnston & Hinchcliff Ltd.; (b) 16 semi-detached bungalows in Bywell Close for T. Pryke Ltd.

Eastbourne Corporation, Plans submitted for (1) erection of (a) boiler house in Ringwood Road for Swan Laundry Ltd.; (b) store and workshop block at the Cavendish Bridge Depot, Bourne Street for the South Eastern Electricity Board.; (c) two-storey block of eight flats and four garages at Wish Hill, Willingdon; (d) single-storey store at Millers Yard, Green Street, for the Star Brewery Co. Ltd.; (e) petrol filling station in Kings Drive; (f) cold store, sub-station and ancillary buildings in Lottbridge Drove for Birds Eye Foods Ltd.; (g) four-storey block of eight flats in Michel Grove; (h) five-storey block of nine flats in St. John's Road; (i) six-storey block of 36

flats, with detached block of 23 garages in Upperton Road; (j) 28 houses in Princes Road; (k) two blocks of 61 flats, 28 garages in four blocks, estate office and electricity sub-station in The Avenue and St. Leonard's Road; (l) 10-storey block of 37 flats in Royal Parade/Marine Parade; (2) outline application for (a) five-storey block of 10 two-bedroom flats with one flat with penthouse above and two garages in Trinity Place; (b) two four-storey blocks comprising 16 flats, one block of 10 garages and one block of six garages in Link Road; (c) 32 houses (six blocks of four and four pairs) and 21 garages in Princes Road; (d) four-storey block of 12 flats with two additional flats and penthouse floor, three-storey block of six flats, 10 garages and a caretaker's store in Granville Road; (e) baptist church with halls, classrooms, vestries, toilet accommodation and car park in Eldon Road; (f) four-storey block of 12 flats and 12 garages in Staveley Road; (g) five-storey block of 20 flats and 15 garages in Meads Road.

Eccles Corporation. Plans submitted for (1) erection of (a) school clinic and child welfare centre in Barton Lane/Corporation Road, submitted by Mr. C. E. Simmonds for the County Medical Officer of Health, Lancs County Council, East Cliff County Offices, Preston; (b) dining room at Worsley Golf Club, Monton Green, submitted by Messrs. Heywood & Ashworth, 2 John Dalton Street, Manchester 2; (c) two blocks of four-storey flats in Cawdor Street, submitted by Mr. F. Bradley, 4 Wood Street, Bolton, for Corporation Housing Committee; (2) extension to (a) Eccles rugby club pavilion in Gorton Street, submitted by Mr. D. Chambers, 4 Collingwood Drive, Swinton; (b) factory in Andover Street for Mr. R. D. Moore; (3) rebuilding of Alder filling station, Worsley Road, submitted by Mr. J. H. C. Brown for the Regent Oil Co. Ltd., 117 Park Street, London, W.1; (4) alterations to form dry goods warehouse at Portland Mill, Wood Street, submitted by Geo. T. Layton & Partners for Lankro Chemicals, Salters Lane; (5) alterations and additions to Victoria Mills, Cawdor Street, submitted by Messrs. C. S. Allott & Son for Scottish Brewers Ltd., Abbey Brewery, Holyrood Road, Edinburgh 8.

Heanor U.D.C. Plans submitted for (1) erection of petrol filling station in the High Street/Alfreton Road for Ind Coope (East Mid.) Ltd.; (2) amended plan for stores and office at Ormonde Colliery for the National Coal Board.

Liverpool Corporation. Plans submitted for (1) erection of (a) engineering factory in Speke Boulevard/Speke Hall Road; (b) additional classrooms and bedroom extension to convent in North Mossley Hill Road; (c) printing works in Pall Mall; (d) 20 detached bungalows and one detached house in Heath Hey, Heath Close and Rockbourne Avenue; (e) 47 dwelling houses, 57 flats (two and three storeys) and 58 maisonnettes (four storeys) on Childwall Valley estate, 34 houses, 30 flats (three storeys) and 26 one-unit garages in Log Lane/Higher Lane, Fazakerley, eight shops with 16 flats (two storeys over), 38 maisonnettes (four storeys) and 12 one-unit garages in Latimer Street, four shops with eight

flats (two storeys over) and 16 maison-nettes (four storeys) in Warwick Street, 12 maisonnettes (four-storey block) in Brancker Street, three houses and nine flats in Toxteth Street, all for the housing committee; (f) changing pavilion in Hale Road, Speke; (g) additional classrooms at school in Stonebridge Lane, assembly hall extension in Aigburth Vale, gymnasium and laboratories extension in Harthill Road, Calderstones, kitchen the stones and the stones are stones and the stones are stones. Harthill Road, Calderstones, kitchen extensions to dining rooms at schools in Ellergreen Road, Norris Green and Periam Road, all for the education committee; (g) public laundry and slipper baths in Crecian Terrace/St. Domingo Road for baths and public laundries committee; (h) two 11-storey blocks (44 one-bedroom flats and 20 two-bedroom flats in each block) in Beechwood Road for bedroom flats and 20 two-bedroom flats in each block) in Beechwood Road for housing committee; (2) alterations to garage and petrol filling station in Queens Drive, Walton, and erection of offices, stores and sanitary accommodation; (4) outline application for (a) industrial premises (for production of animal feeding stuffs) in Bankfield Street; (b) Notre Dame R.C. secondary selective school for girls in Stonebridge Lane; (c) three-storey industrial premises (sack and bag works) in Denbigh Street/Athol Street. Street.

Manchester C.C. Plans submitted for (1) erection of (a) cooling tower and pump house at Crumpsall Vale Works, Blackley; (b) two-storey classroom block and first floor lavatory block at St. Edward's and St. Kentigern's school, Yew Tree Road, Rusholme; (2) extension to (a) mill in Heaton Park Road, Higher Blackley for Heaton Mills; (b) St. Andrew's C.E. school, Stockport Road, Levenshulme; (3) alterations and extensions to the Orion Inn, Burton Road, Withington Withington.

Newport, Isle of Wight. Plans submitted for (1) erection of (a) warehouse in Medina Avenue for Hooper & Ashby

Ltd.; (b) two additional classrooms at Nine Acres school; (2) extension to Block Factory in Trevor Road for Mews Block Co. Ltd.; (3) outline application for (a) 12 dwellings in Watergate Road for Mill-brooke Properties Ltd.; (b) 50 dwellings and garages and construction of two culde-sacs in Church Road/Palmers Road, Wootton, for H. E. Butler.

Norwich C.C. Outline application for 11-storey block of offices and studios in Thorpe Road.

York C.C. Plans submitted for (1) erec-



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tion of (a) pump house at the sugar factory, Boroughbridge Road for the British Sugar Corporation Ltd.; (b) fifth floor to the Melangeur block at the Cocoa noor to the Melangeur block at the Cocoa Works, Haxby Road, for Rowntree & Co. Ltd.; (c) eight semi-detached houses at Langholme Drive for Yates Ltd.; (d) four shops in West Bank Acomb Road for Acomb Developments Ltd.; (e) wing to the Bar Convent school in Nunnery Lane/Blossom Street for the Reverend Mother Superior and Governors; (f) two shops and maisonnettes in Kingswav shops and maisonnettes in Kingsway West/Green Lane for the housing com-

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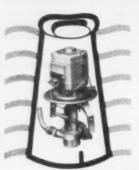
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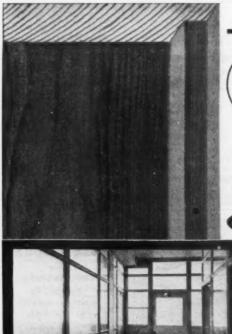
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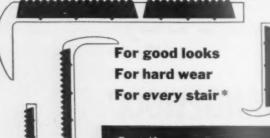
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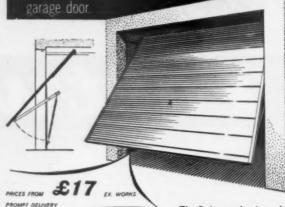
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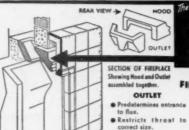
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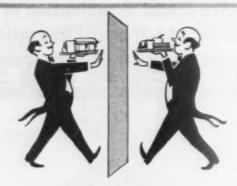
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# Official Announcements

APPOINTMENTS CONTRACTS TENDERS

Close for press · first post Monday for following Wednesday issue.

Rates · 25s per inch and pro rata, minimum half inch.

### APPOINTMENTS

**Borough of Taunton** Architect's Department
APPLICATIONS are invited for the
following appointments in the Borough
Architect's Department:— (1) Assistant Architects, Grade A.P.T. IV (£1,065-£1,220 p.a.), (2) Assistant Architects, Special Grade (£785-£1,070 p.a.). (3) Architectural Assistant, Grade A.P.T. II-III (£765-£880-£1,065 p.a.). (4) Architectural Draughtsman, General Division (£210-£595 p.a.). (5) Quantity Surveying Assistant, General Division-Clerical Division Grade I (£210-£595-£670 p.a.). Superannuable posts subject to medical examination, and to National Conditions of Service. Applications, stating age, present position and salary, qualifications, experience and names of two referees, to be sent to C. Bacon, F.R.I.B.A., Borough Architect, Flook House, Station Road, Taunton, by Tuesday, September 20,

> K. A. HORNE. Town Clerk [6961

City and County of Newcastle upon Tyne

City Architect's Department
THE City Architect will be pleased to
receive applications for the following vacancies in the Rehousing Section of the Department:-

the Department:—
(a) Principal Assistant Architect (I),
JNC Scale 'C' (£1,385-£1,620 per annum),
(b) Principal Assistant Architect (II),
JNC Scale 'B' (£1,255-£1,485 per annum),
(c) Senior Assistant Architect, APT
Division, Grade IV (£1,065-£1,220 per annum).

Application Forms and full particulars may be obtained on application in writing to George Kenyon, ARIBA, AMTPI, City Architect, 18 Cloth Market, Newcastle upon Tyne 1. Applicants must state the post applied for when requesting particulars

Closing date for completed applica-tion:—Saturday, October 1, 1960. JOHN ATKINSON

Town Clerk. Town Hall. Newcastle upon Tyne 1. September 5, 1960. [6972

ARCHITECTS AND MAINTENANCE SURVEYORS. Pensionable posts for men and women at least 25 and under 35 on January 1, 1960 (extension for regular Forces service, Overseas Civil Service, established civil service and temporary Government service as Architect or Maintenance Surveyor). Candidates must be registered Architects or, alternatively, for Maintenance Surveyor posts, have achieved Corrotter, prophership of achieved Corporate membership of RICS (Building Section), or have passed examinations necessary for attaining Corporate membership. Salary (men. London) £830-£1,125 according to age, rising to £1,300. Promotion prospects. Write Civil Service Commission, 17 North Audley Street, London, W.1, for application form quoting S/60-61. [6973

The University of Sheffield Planning Officer: H. R. Johnson, B.A., A.R.I.B.A.

ASSISTANT ARCHITECT required for Planning Office which is supervising a new building programme costing about £5 million. The work will be varied and interesting and will provide excellent experience for a young and capable man. Commencing salary according to experience within scale £900 x £50-£1,300 with family allowance of £50 per child, and superannuation benefits. Apply by letter to the Bursar, The University, Sheffield, 10, giving names of two persons Shelled, 10, giving halles of two persons to whom reference may be made, before September 20. Envelopes should be marked "Assistant Architect—Planning Office". [6939]

> City of Sheffield-Waterworks Undertaking

Yorkshire Derwent Scheme
APPLICATIONS are invited from appropriately qualified persons for the appointment of QUANTITY SURVEYOR, scale APT V salary £1,220 to £1,375. Commencing salary within the scale according to qualifications and appropriate. experience.

The successful candidate will be required The successful candicate will be required to 'take off' and compile Building and Civil Engineering Bills of Quantities for the Works of the Yorkshire Derwent Scheme and later be responsible for the measurement of the works. Further details of this Scheme can be obtained from A. B. Beldwin, Merg. General from A. B. Baldwin, MEng. General Manager and Engineer, Sheffield Cor-poration Waterworks, Town Hall, Shef-

The appointment is superannuable and subject to medical examination and to the National Joint Council Conditions

as applied by the City Council.

Applications are to be forwarded to the undersigned by September 26, 1960, stating age, qualifications, past and present appointments (with dates and salaries), details of relevant experience and schemes engaged upon, together with the names of two referees.

JOHN HEYS.

Town Clerk.

Town Hall, Sheffield 1.

[6969

County Borough of Bury
APPLICATIONS invited for permanent
appointment of SENIOR ASSISTANT
ARCHITECT, APT IV (£1,065-£1,220).
Commencing salary according to qualifications and experience.

should be experienced in **Applicants** dealing with contracts for large public works and should be professionally qualified.

Applications, stating age, details of training, qualifications, experience, present and previous appointments together with names and addresses of two referees, must reach me by October 8, 1960. 8, 1960.

EDWARD S. SMITH. Town Clerk.

Town Hall, September 8, 1960.

16985

range £830-£1,265. Middlesex County Council

Commencing salaries will be assessed according to ability and experience. The department has in hand an interest-ing programme of works which will be designed under the direction of Mr. Whitfield Lewis, F.R.I.B.A., County Architect.

Organization is on a group basis and full scope will be given to Architects who show marked design ability.

Good career prospects can be expected.

Prescribed conditions.

Application forms from The County Architect, 1 Queen Anne's Gate Buildings, Dartmouth Street, S.W.I, returnable by October 3. (Quote E.265 ABN.)

## ARCHITECTURAL ASSISTANTS INTERMEDIATE OR FINALS STANDARD required in

Chief Architect's office Interesting and varied work. Five-day week, bonus, etc. Appointments per-manent and superannuable.

Write (in confidence) stating age, ex-perience and salary required to Personnel Manager,

WATES LIMITED London Road, Norbury, London, S.W.16 [0830

Australia The University of New South Wales, Sydney LECTURER—SCHOOL OF ARCHITECTURE

THE University invites applications for appointment to the position of Lecturer in the School of Architecture at Kensing-

Salary: £A1,743 range £A2,448 per annum.

Commencing salary according to quali-fications and experience.

Applicants must be qualified town plan-

ners and possess an appropriate degree, diploma or equivalent qualifications and should be eligible for membership of the Town Planning Institute in Australia or Britain.

The successful applicant will be required to lecture and conduct studio work in the subject of town planning and assist in the subject of civic architecture. Subject to passing a medical examina-tion, appointee will be eligible to con-tribute to the State Superannuation Fund. Appointee will be eligible for 12 months' study leave on full salary after six years' service.

First class ship fares to Sydney of the appointee and his family will be paid. Four copies of applications, including the names of two referees, should be lodged with the Agent General for New South Wales, 56-57 Strand, London, W.C.2, and a copy forwarded by airmail in an envelope marked 'University Appointment' to the Bursar, The University of New South Wales, Box 1, Post Office, Kensington, New South Wales, Australia, before October 14, 1960. [6982]

# Official Announcements

APPOINTMENTS (cont)

County Borough of Bury APPLICATIONS are invited for the

following permanent appointments: (a) Assistant Estates Surveyor. A.P.T. I (£610-£765) or A.P.T. II (£765-£880) or Special Grade (£785-£1,070).

(b) Assistant Quantity Surveyor. A.P.T. I (£610-£765) or A.P.T. II (£765-£880) or A.P.T. III (£880-£1,065) or Special Grade (£785-£1,070).

Commencing salaries will be fixed according to qualifications and experience. Applications, stating appointment applied for, age, details of training, qualifications, experience, present and previous appointments and salary, together with the names of two referees, must reach me by September 21, 1960.

EDWARD S. SMITH. Town Clerk.

Town Hall. Bury.

August 30, 1960. [6959

Borough of Enfield

Borough Engineer and Surveyor's Department

(Non-County Borough in the County of Middlesex. Population 109,700. Area 12,400 acres)

AMENDED ADVERTISEMENT

APPLICATIONS are invited from suitably qualified persons for the following permanent appointments:-

(1) Assistant Architect, A.P.T. IV, £1,065-£1,220 plus London Weighting.

(2) Architectural Assistants (2 No.), A.P.T. III, £880-£1,065 plus London Weighting.

(3) Architectural Assistant, A.P.T. II, £765-£880 plus London Weighting. (4) Junior Architectural Assistant, A.P.T.

1, £610-£765 plus London Weighting. The commencing salary will be fixed at points within the Scale commensurate with qualifications and experience.

There is a large varied programme of work, including the redevelopment of Clearance Areas and other areas scheduled for Comprehensive Development.

Housing accommodation may be made available in appropriate cases. The Council is also prepared to consider 100 per cent advances to successful applicants for house purchase within the Borough. Saturday mornings are normally free

from duty. Application forms, obtainable from H. D. Peake, M.Sc.(Eng.), M.I.C.E., Borough Engineer and Surveyor, 7 Little Park Gardens, Enfield, Middlesex, must be delivered to the undersigned not later

than Monday, September 26, 1960. CYRIL E. C. R. PLATTEN.

Town Clerk.

Public Offices. Gentleman's Row, Enfield, Middx. [6942

Borough of Bexley
ASSISTANT ARCHITECT
APPLICATIONS are invited for this appointment at a salary within Grade APT III (£880-£1,065 per annum) plus London Weighting.
Candidates should have suitable qualifications and have had experience in

school and housing projects.

school and housing projects.

Form of application and conditions of appointment are obtainable from Borough Engineer, West Lodge, Broadway, Bexleyheath, to whom completed applications must be returned by Monday, October 3, 1960. The Council may be application of the council may be considered to the control of the be prepared to assist in the provision of housing accommodation.

Canvassing will disqualify.

ARTHUR GOLDFINCH. Town Clerk

City of Birmingham City of Birmingham
QUALIFIED ARCHITECTS, Grade
APT IV (£1,065 to £1,220 per annum),
required in the City Architect's Department to work on new Exhibition Hall
and other buildings. Commencing
salaries according to experience and
carabilities capabilities.

A great opportunity exists for enthusias-tic and imaginative Architects who wish to assist in work of such architectural importance.

Pension Scheme. Five-day week. Medical

Examination. Applications stating age, present posi-tion and salary, qualifications, experience and two referees to reach the undersigned by September 30, 1960.

A. G. SHEPPARD FIDLER. City Architect Civic Centre, Birmingham 1.

Leeds Regional Hospital Board APPLICATIONS are invited for the following appointments in connection with the construction of a new multistorey reinforced concrete-framed general hospital at Huddersfield (500 nospital at Hudderstield (500 beds, approximate cost £3,500,000). The building work commenced in March this year and it is anticipated that site works will continue until 1962/63.

Assistant Clerk of Works (Mechanical and Electrical), salary scale £800/£900 per annum.

(b) Assistant Clerk of Works (Building), salary scale £600/£750 per annum plus payment for overtime.

Applications stating age, qualifications, previous experience together with names and addresses of two persons to whom reference may be made to the Secretary, Park Parade, Harrogate by not later than September 30, 1960.

## ARCHITECTURAL APPOINT-MENTS VACANT

ASSISTANTS urgently required, intermediate to final standard. Interesting and varied work with opportunities for site supervision. Salary from £600 plus L.V. G. Gordon Stanham, Adamson, Gray & Partners, 9/10 Fenchurch Street, London, E.C.3. MANsion House 1010 or 5274.

DEVEREUX & DAVIES require capable and enthusiastic assistant architects, salary £1,000 per annum or according to experience and ability.—Devereux & Davies, 3 Gower Street, Bedford Square. London, W.C.1.

ARCHITECTURAL ASSISTANT, Intermediate standard. Busy London office. Good prospects. Box 3668. [0080]

WEST END OFFICE requires Assistant Architects of Final and Intermediate Standards for interesting industrial pro-jects in Home Counties. Good salaries offered to men with initiative and ability. Bonus scheme, five-day week, holiday arrangements honoured. Box 0627. [0380]

ARCHITECTURAL ASSISTANT required, with at least two years' office experience. Apply in writing to Thomas Mitchell & Partners, 20 Bedford Square, London, W.C.1.

BASIL SPENCE & PARTNERS require qualified and experienced Architects to fill positions of responsibility on a major building programme. Write to 48 Queen Anne Street, W.1, stating experience and [0740 salary required.

ARCHITECTURAL ASSISTANT required, able to work on own initiative, varied practice, small office, opportunity for advancement. Write or phone, Nicholson & Rushton, 2 New Square, Lincoln's Inn, W.C.2. HOLborn 2095.

ARCHITECTURAL ASSISTANT, London, Final standard. Industrial and commercial. Progressive and interesting. Salary according to experience and ability. Box 3667.

ASSISTANT ARCHITECTS, salary up to £1,250 according to ability and experience, for Colleges, Hostels, Schools all types. Apply—Charles Pike & Partners, 14 Lincoln's Inn Fields, London, W.C.2 or phone HOL. 3532 for appointment.

IMAGINATIVE ARCHITEC-TURAL ASSISTANT who would like to work in a team of three on an unusual administrative building and a University aboratory Block is invited to telephone Whitehall 2552. Salary around £850. [0741

APPOINTMENT OF SENIOR ARCHITECTURAL ASSISTANTS. Applications are invited from Qualified Architects to take up responsible positions with Consultant Architects to large-scale Estate Developers in the Southern Counties. The posts offer considerable scope in a variety of projects. scope in a variety of projects.

The Contracts already in hand will extend for a minimum period of ten years.

Subject to a probationary period of six months, the posts will be permanent and a generous non-contributory pension scheme is available.

The present contracts cover normal domestic buildings up to twelve-storey units and from small estates up to small townships of some 2,500 units, shops, offices, hall, churches, etc.

Applicants must, therefore, have good design sense, first-class knowledge of construction and administration and experience of multi-storey development. Salaries will be commensurate with ability and experience. Please apply in writing, stating age, experience and

salary expected to:-Walter G. Palmer & Associates, Char-tered Architects and Surveyors, 1 Spring Crescent, Portswood, Southampton. [6933

TAYLOR, YOUNG & PARTNERS, MANCHESTER, require assistants for work on schools, hospitals and other projects. Pension scheme, salary up to £1,200 per annum according to ability and experience. Apply in writing, to 195 Oxford Road, Manchester, 13. [6949

ARCHITECTURAL ASSISTANT with some good all-round experience required at Welwyn office—31 Church Street, Welwyn 700.

# Announcements ARCHITECTURAL APPOINTMENTS VACANT (cont)

BRIAN PEAKE requires assistant interested in and capable of running small contracts, domestic and commercial. Tel: GROsvenor 7888. [6977

ARCHITECTS of differing grades required for a variety of interesting work, particularly industrial. Please apply: A. M. Gear & Associates, 12 Manchester Square, London, W.1. Telephone: HUNter 0331.

QUALIFIED School-trained architects with a minimum of two years' office experience required by busy and expanding London firm. Salary range £1,200-£1,500. Preference given to those with design ability and the capacity to think clearly, write intelligibly, draw superbly and work hard. Apply giving full details of education and experience to Box No. 1705.

A LONDON OFFICE in pleasant surroundings, not a country practice. Architect requires senior and intermediate assistants for work on large projects of very varied nature. Apply in writing, stating age, experience and salary required, to Roff Marsh, F.R.I.B.A., M.T.P.I., 125/7 London Road, Chelmsford. [6957]

ARCHITECTURAL ASSISTANT (Final Standard) required in busy office with interesting and varied general practice. Five-day week. Reply giving full particulars, age and salary required, to Godman & Kay, FF.R.I.B.A., 13 North Parade, Horsham, Sussex. [6952]

A QUALIFIED ARCHITECTURAL ASSISTANT required immediately in Home Counties office. Successful applicant will have the opportunity of working on widely varying industrial, commercial and housing schemes. Five-day week. Write full particulars to Box 1621. [6956 ASSISTANT ARCHITECT wanted for design and construction of important overseas university buildings (East Africa). Two year contract. Good salary, accommodation, prospects. Particulars to Hening & Chitty, 30 Percy Street, London, W.1.

A VACANCY occurs in the office of David Stern and Partners for each of the following posts:—

(a) Senior Assistant Architect (£950-£1,250).

Applications are invited from suitably qualified Architects or men of Final RIBA standard who have completed several years of sound and varied office experience.

The successful applicant will be required to undertake a wide variety of work including multi-storey office, flats, factories, shops and conversions. The work is of a progressive nature and applicants should possess a good sense of design allied to a sound knowledge of detailing and modern constructional methods.

(b) Assistant Architect (£750-£1,000). Applicants should be post Intermediate RIBA standard with some office experience, willing to accept responsibility and work on own initiative. Good prospects for early promotion to the senior grades.

grades.
Five-day week and holidays by arrangement.

To discuss joining us telephone HUNter 0451 or write to 24 Gloucester Place, W.1. [6975 A VACANCY occurs in the West End Branch of large provincial Architectural Practice for an assistant at Intermediate standard. The post offers considerable scope on varied projects. Five-day week, Luncheon Vouchers. Write, giving particulars of age, experience and salary required, to Box 1620. [6955]

RONALD WARD & PARTNERS invite applications from Architects, senior and junior. Long-term prospects. Scope for initiative and responsibility in interesting commercial, industrial and civic projects in British Isles, West Africa and Australia. Salaries commensurate with ability, Non-contributory Pension and Life Insurance schemes. Five-day week. Pleasant offices. Apply 29 Chesham Place. Belgrave Square, London, S.W.1. Tel: BELgravia 3361. [697]

ASSISTANT ARCHITECTS required for staffing a new office opening in Southampton for work on interesting programmes for Universities, the War Department and Ecclesiastical projects. Juniors also required.

Juniors also required.

Apply stating age, qualifications, experience and salary required to Robert Potter, F.R.I.B.A., and Richard Hare, B.Arch., A.R.I.B.A., of De Vaux House, Salisbury.

[0337]

FELIX WALTER, FRIBA, requires assistants of post intermediate standard to fill responsible positions in expanding practice. Applicants must be competent draughtsmen with sound knowledge of construction and detailing, and keen interest in good design. Salary range £700-£850 according to ability and experience. Phone HOLborn 0535, or write: 4 Raymond Buildings, Gray's Inn. London, W.C.1.

# Miscellaneous Announcements

Rate • 1/9d per line minimum 3/6d, average line 6 words. Each paragraph charged separately. Situations wanted • advertisements are accepted at the specially reduced rate of 6d per line minimum 1/6d Box Numbers • add two words plus 1s for registration and forwarding replies which should be addressed c/o "The Architect & Building News," Dorset House, Stamford Street, London, S.E.1. Semi-display • advertisements with centralized lines are charged at 25s per inch, and pro rata, minimum half inch. Press Day • Monday. Remittances payable to Iliffe & Sons Ltd., Dorset House, Stamford Street, London, S.E.1.

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## SITUATIONS VACANT

EXPERIENCED Builder's General Foreman required. Apply G. E. Sargeantson & Son Ltd., 12 Kingsway, Scunthorpe. State age, experience and salary required, also three references will be needed. [6925 IF YOU ARE YOUNG, eager for responsibility and not afraid of hard work, contact Mr. Williams at WATerloo 5688. Good salary, Luncheon Vouchers and all the usual attractions. [6976]

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Adequate funds available. Replies, treated in strictest confidence, should be addressed in first instance to Messrs. Howell & Co., Certified Accountants, 131 High Street, Teddington, Middlesex.

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SECOND-HAND Sectional Timber Buildings, 24ft x 12ft, £102; 30ft x 15ft, £138; 40ft x 18ft, £192; 60ft x 20ft, £302, floors extra, delivery included 100 miles. Also similar new buildings; lists. Universal Supplies, Crabtree Manorway, Belvedere, Kent (Erith 32948). [0760

## SHOPFRONTS

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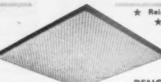
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